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Heavenly Influences: The Cosmic and Social Order of New Spain at the Turn of the Seventeenth Century

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Heavenly Influences: The Cosmic and Social Order of New Spain at the Turn of the Seventeenth Century

by

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Dedicated to my parents

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Heavenly Influences: The Cosmic and Social Order of New Spain at the Turn of the Seventeenth Century

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This is the story of Spanish belonging in New Spain and the creation of *New* Spaniards. Tracing Spanish perceptions of place, the body, belonging, and Indian mortality, as well as constructions of "nativeness" and "Spanishness" from the conquest, this work does three things. First it examines the ideological constructs behind Spanish belonging, and the ideas that Spaniards brought with them about their bodies and their relationship to the environment. Second it follows the progression of these ideas through the first three generations of Spanish colonization, paying particular attention to the way that political rivalries, the exigencies of the crown, and Indian mortality affected discourse on belonging and identity. Finally, it captures a moment at the turn of the seventeenth century, when residents of New Spain began to re-imagine their belonging and their relationship to the land and its original inhabitants.

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Introduction

In 1604 Bernardo de Balbuena, penned an ode to Mexico City, celebrating the culture, trade, and natural splendor of the young capital. Though born in Spain, Balbuena spent his formative years in Jalisco, Guadalajara, and Mexico City and his allegiance with the viceroyalty was evident. His *Grandeza Mexicana* extolled the bounty of New Spain, declaring Mexico City to be the richest city under the sun. Balbuena celebrated the temperate and fresh winds bathing the metropolis and the courtesan-like comportment of its residents. Hinting at the disorder lurking beneath Spanish control, he praised the "tenderness" of the city's leaders who brought *policía* (order) to "that which without it would be a confused hell."[1] According to Balbuena the city blossomed under Spanish care, enjoying the best that civilization had to offer including trade, arts, architecture, and social activities. But it was the nature of the place that produced Mexico's greatest treasures: "beauties rare, and brilliant minds of soaring flight." Attributing the brilliance of the city's native born to "the stars" or "some divine virtue," he observed that,

> "If beauty is part of heaven,
> Then Mexico is the heaven of this world,
> For here grows the greatest beauty that the world has seen." [2]

Balbuena's eloquence played into a popular trope of the day, which celebrated the nature of New Spain and her residents. This trope was most fully developed in a group of medical and astrological texts published in Mexico City in this period. Juan de Cárdenas's *Problems and Marvelous Secrets of the Indies* (1590), Enrico Martínez's *Reportorio and Natural History of New Spain* (1606), and Diego Cisneros's *Location, Nature and Properties of Mexico City* (1618) explored the nature of New Spain and its effects on the residents of the kingdom.[3] Part of a flourishing of "scientific" activity on

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[1] Bernardo de Balbuena, *La Grandeza Mexicana, Y Compendio Apologético En Alabanza De La Poesía* (México: Editorial Porrúa, 1971), 119.

[2] Ibid.

[3] The books were quite different in their composition and subject matter, but were all written with the aim of elevating their authors' position in the colonial matrix (and securing eternal fame.) Both Juan de Cárdenas and Diego Cisneros sought the positions in the Real y Pontifica Universidad, while Martínez sought and obtained the position of *Maestro del Desague*, head engineer of a massive drainage project. Their works established, among other things, the authority and *sabiduria* (knowledge) of their authors. To

the local level, that included a massive drainage project called the *Desagüe* (managed by Enrico Martínez), these works reflect a larger shift, as residents of New Spain began to re-imagine their relationship to the land and their place in the colonial matrix.[4]

This period witnessed a relative boom in the publication of works dedicated to the production of natural knowledge on both sides of the Atlantic.[5] This production included medical, navigational, and astrological texts, such as Jerónimo de Chavez's famous gloss of Sacrobosco's *de Sphaera.*[6] As María M. Portuondo has recently shown, increased production of navigational manuals had to do with the empire's need for pilots and the expansion of classroom training under the Casa de Contratación in Seville, which was charged with monitoring trade and navigation to and from the Indies.[7] In New Spain the creation of *Catedrático de Medicina* in 1579 and that of *Visperas* in 1598 probably encouraged the production of medical texts in a similar way. For example, Juan de Cárdenas's *Problemas* seems to have served as part of his doctoral requirements, and both Cisneros and Cárdenas probably saw their works as part of their bid for positions at the Real y Pontifica Universidad de Mexico. Likewise, Martínez's astrological text demonstrated his abilities with mathematics, and may have helped him achieve the position of Maestro del Desagüe. In sum, patronage on both the local and imperial level

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do this, they followed established traditions and genres in Natural Philosophy, adding their own insight and experience to a broader corpus of natural and historical knowledge. Juan de Cárdenas referenced an early modern fascination with the "secrets" and secret knowledge in his title "Problemas y Secretos Maravillosos de las Indies," while Martínez stuck to two traditional and respected genres, the *Reportorio*, or almanac, and the Natural History, and Cisneros's *Sitio, Propiedades y Naturaleza* followed Hippocrates's *On Airs, Waters, and Places*. Starting with Cárdenas's *Problemas*, written in 1590, the works move concentrically inward in scope, from the Indies, to New Spain (Martínez 1607) to Mexico City (Cisneros 1618), although one might argue that Cárdenas, who was educated at the Real y Pontifica University of Mexico best represented a local perspective. Each work was dedicated to the viceroy in power at the time of its publication, and both Martínez and Cisneros received considerable patronage from viceregal sponsors.

[4] These works, along with Juan de Barrios's *Verdadera medicina, cirugía y astrología* (1607), Agustín Farfán's *Tractado Breve de Medecina*, represent the largest corpus of "scientific" texts coming out of the New World until the 19th Century, and seen alongside Martínez's massive desagüe, this period is truly remarkable.

[5] Along with the texts of Juan de Barrios (1606) and Agustin Farfan (1592) these three texts represent one of the largest groups of "scientific" texts published in New Spain in the colonial era.

[6] Jerónimo Chaves, *Tractado De La Sphera Que Compuso El Doctor Joannes De Sacrebusto Con Muchas Additiones. Agora Nuevamente Traduzido De Latin En Lengua Castellana Por Jerónimo De Chaves El Qual Añidio (Sic) Muchas Figuras Tables Y Claras Demonstraciones: Junctamente Con Unos Breves Scholios, Necessarios Á Mayor Illucidacion, Ornato Y Perfecion Del Dicho Tractado* (Sevilla: Juan de Leon, 1545).

[7] María M. Portuondo, *Secret Science: Spanish Cosmography and the New World* (Chicago: University of Chicago Press, 2009), 56.

encouraged the publication of scientific works.[8] In New Spain, it also influenced the way that these authors imagined New Spain's heavenly influences.

While Martínez's *Desagüe* remade the land in a real way, these texts re-imagined the land on a discursive level. Like Balbuena these authors commended the courtliness and intelligence of native born Spaniards, attributing these characteristics to celestial and environmental influence. Assigning a ruling planet or constellation to the kingdom of New Spain and a "complexion" to the native, Spanish and creole inhabitants of the realm, they fixed the new kingdom in a Cosmic order of places and people. Their works attempted to answer such questions as: why did those born in Spain and other parts of Europe develop mental acuity in New Spain but lose physical strength? Why were the torrid lands of the Indies fertile during the summer? Did taking chocolate break a fast? Did the conjunction of Saturn and Mars in the sign of Capricorn cause harm to the Indians of the kingdom? And most importantly, what was the difference between creoles, Spaniards and Indians?

In the early modern imagination, *place* played an important role in the construction of the body. Both the body of the individual and his personality were understood as an extension of the land in which he was born. Man was disposed to the same imbalances and corruptions as the air he breathed or the water and food he consumed. To be a native, *natural*, of a place was to guard its nature. The word "nature" – natura comes from the Latin nascor, to be born, and in the early modern period this root of the word colored the process identification more than it does today. To be a *natural* or native of a place was to guard of its nature. This idea colored ideas about citizenship. For example Italian jurist Baldus of Perugia writing on citizenship said that native citizens had a natural inclination, a *habitus*, in favor of the place, but that immigrants could develop a "second nature" linking them with the new community.[9]

In New Spain, however, nativeness was problematic. Although it conferred a sense of belonging it also implied an intrinsic physical, psychological, and almost spiritual

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[8] Although the term "scientific" may not accurately describe these productions or the activities of this period- which did not conform to the scientific method characterizing what is properaly understood as scientific, I use it hereafter as a short hand to describe the production of natural knowledge.

[9] Tamar Herzog, *Defining Nations; Immigrants and Citizens in Early Modern Spain and Spanish America* (New Haven & London: Yale University Press, 2003), 26.

connection with the Indians or *naturales* of New Spain, who were alternately imagined as "lazy" or "able to learn any craft." Indian bodies served as lens for understanding the nature of place, and constructions of degeneracy carried over in debates concerning the identity of the creole and resident Spaniards. For instance, speaking about the strict control asserted by Indian religious and temporal leaders during their "infidelity," Bernardino de Sahagún, a Franciscan who compiled Indian knowledge at the college of Santa Cruz de Tlatelolco between 1550 and 1577, argued that this kind of management was necessary because "the temperateness and abundance of this land and the stars that reign over her help the human nature to be vice ridden and lazy and very given to the sensual vices."[10] The friar lamented that it was not surprising that the Indians should fall into such dissipation, seeing that the Spaniards who lived and were born there also "received the bad inclinations [of the land]." Sahagún argued that Spaniards born in New Spain shared the same "aspect" as peninsular Spaniards, but had different "conditions."[11] They looked the same, but were fundamentally different. According to Sahagún this environmental influence also affected Spaniards who came to the Indies, "unless they were given notice," so that within a few years of inhabitance, the land made them "other."[12]

By the turn of the seventeenth century, the "Spanish" population of New Spain was dominated by creoles and other "naturalized" Spaniards, and even émigré scholars such as Cárdenas, Martínez, and Cisneros began to embrace this "otherness." Examining the construction of the creole in these works, Jorge Cañizares Esguerra has focused on the "defense" of the creole and the construction of different bodies for Indians, Spaniards and creoles.[13] But I argue that the creation of the creole goes beyond a mere defense, and that these works reflect a pivotal moment in New Spain's history when Spaniards, both native born and resident, started to re-imagine their relationship to the land. After two generations, during which time Spanish residents defined their belonging in the kingdom

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[10] Fray Bernardino de Sahagún, *Historia General De Las Cosas De La Nueva España* (Madrid: Alianza Editorial, 1988). Vol. 2, Book 10, 627.

[11] Ibid. Vol II, Book 10, 629.

[12] Ibid. Vol II, Book 10, 629.

[13] Jorge Cañizares-Esguerra, "New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600- 1650," *American Historical Review* vol. 104, no. no. 1 (1999), 35.

in relation to the Indians and an evangelizing and civilizing mission, these authors hinged belonging on a relationship to place. These authors not only differentiated creoles from the Indians, tying them to Spain through "inheritance," they created New Spaniards, whose bodies belonged to two places, bridging two worlds. In part this was a reaction to the growth and influence of a local Spanish population, and in part it was a reaction to the mortality of the Indians which made room, both symbolically and geographically for Spanish appropriation. Spaniards belonged to the land just as it now belonged to them.

Belonging, Place, and Body

Recent scholarship by Nicolas Wey Goméz highlights the relationship between *place* and body in the Spanish imagination. Beginning with the observation that Columbus sailed south, as well as west, Wey demonstrates the pervasiveness of the tri-partite division of the world, which imagined a natural hierarchy dependant on place. According to this theory, men born in temperate climes were more fit to rule than those born in the "fringes," where nature misbehaved. As Wey notes, Columbus and his contemporaries imagined the inhabited world as part of a "temperate' and thereby, "civilized" corridor… besieged to the north and south by the extreme cold and heat of the "wild" arctic and tropics."[14] The Tropics were imagined as both wealthy and uninhabitable. The sun generated gold, gems, and other valuable commodities but it also scorched and scarred the earth. Wey argues that even as Europeans, such as Columbus, began to believe that the Torrid Zone was habitable, and even temperate, they retained the notion that the people produced there were deficient and unfit for self government. In a mental slight of hand they divorced the people of the southern climes from the place that produced them. "Indeed, while Columbus's India was proving to be a superlatively temperate, fertile, and inhabitable Eden, Columbus's Indians remained, by his testimony, childish or monstrous creatures of the globe's infernal fringes, whose liminal nature seemed to justify rendering them Europe's subjects or slaves."[15] Spaniards imagined their *place* in the world vis-à-vis natality and a cosmological order.

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[14] Nicolás Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies* (Cambridge, Mass.: MIT Press, 2008), 50.

[15] Ibid., 53.

However, Spaniards also imagined their place in the world in relation to their privileged relationship with God and their ability to understand nature. As Michael Adas has pointed out, from the beginning of European expansion Western domination was predicated on the assumption of the existence of transcendental truths, valid for all people, and a belief that first Christianity and later science and technology gave Europeans superior access to these truths. Adas notes that "most of the travelers, social theorists, and colonial officials who wrote about non-Western societies assumed that Europeans better understood these truths or had probed more deeply into the patterns of the natural world which manifested the underlying reality."[16] In other words, Europeans largely believed that it was their knowledge about nature or God, and not the *effects* of nature that determined their superiority. Adas, who focuses primarily on British and French experiences, emphasizes technology, which he broadly defines as "efforts to exercise a "working control" over the environment," as a method used by Europeans to both explain and justify their superiority over the peoples they encountered.[17] He argues that "racism should be viewed as a subordinate rather than the dominant theme in European intellectual discourse on non-Western peoples."[18]

On the other hand, Joyce Chaplin has argued that English colonists ascribed their superiority to their bodies. Looking at the intersection between Indian mortality and English perception, she argues that the mortality of the Indians convinced settlers that Indian bodies were weaker and inferior to British bodies, which were better suited to the New World environment. Looking at the construction of a British sense of belonging in the colony, she argues that there were three stages in this process. First, British colonists formed a racialized view of Indian bodies as inferior, based largely on their mortality. This led colonists to disparage Indian technology and land use, and they began to assert their own superior *techne,* or ability to harness the lands natural resources. Finally, at the end of the seventeenth century, colonists began to differentiate between "their own and Indians' abstract definitions of the material world, identifying themselves against

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[16] Michael Adas, *Machines as the Measure of Men: Science, Technology and Ideologies of Western Domination*, Cornell Studies in Comparative History (Cornell University Press, 1989), 6.
[17] Ibid., 5.
[18] Ibid., 12.

Indians' perceived ignorance and superstition."[19] In other words, she argues that colonists first understood their superiority and sense of belonging vis-à-vis a *natural* or material difference, then as a result of *technological* superiority, and finally as a reflection of their superior understanding of the *metaphysical* world at large.

This study finds the reverse sequence in New Spain. These tropes did not follow one from another ontologically, and each can be found throughout the period in question. However, as many of these interpretations implied remedy, from indoctrination to congregation, and much of this discourse was directed at the Crown and royal policy, there are certain periods when different tropes dominated or came to the fore. Spaniards' first reactions were formed by their perceived relationship to God and the *metaphysical* world. During the first generation of Spanish presence in New Spain, Spaniards imagined their place in the province as an extension of the Reconquista and the expansion of Christianity and the smallpox epidemic that accompanied this process as evidence of God's approbation. Later, Spaniards saw their superior civilization (*technology*) as a means to validate the domination and reorganization of the Indians, who were dying because they simply did not know how to live properly. Spaniards defined their superiority according to their belief that they understood the laws of nature better than the Indians, but also because they had superior habits. It was not until the third generation, at the turn of the sixteenth century when depopulation and Spanish appropriation of the land had transformed the geography of New Spain that Spaniards began to imagine themselves as the *natural* masters of the land, basing their claims to the land on their own nativeness.

Unlike the British example, this study finds that mortality and inferiority were not linked in a causal way in the Spanish imagination. Spanish colonists did not see Indian mortality as a symptom of their inferior bodies, or necessarily judge them as inferior for dying; neither did they base their own belonging on their resistance to disease. Yet Chaplin's framework provides a valuable model, because while mortality and superiority were not directly linked, mortality still affected Spanish belonging.

Indian mortality threatened Spanish belonging in a number of ways. First mortality jeopardized the evangelization project. To save Indian souls, friars needed living Indian

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[19] Joyce E. Chaplin, *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500-1676* (Cambridge, Mass: Harvard University Press, 2001), 15.

bodies, and the mortality of the Indians encouraged many to condone the excesses of the Spanish project, which "consumed" New Spain's most valuable natural resource.[20] This discourse and the continued mortality of the Indians challenged the civilizing mission, calling the whole project into question. If Spanish civilization were so superior to that of the Indians, why were the once "numberless" Indians disappearing?[21] On the other hand, it encouraged civilizing projects, such as congregation, which attempted to bring the "disorganized" Indians into *policía* or order. Proponents of congregation argued that the Indians were not dying because of Spanish excesses, as many claimed, but because they simply did not know how to live properly. Finally, as numbers dwindled, many worried that the basis for the Spanish project would disappear, encouraging Cárdenas, Martínez, and Cisneros to imagine a new foundation for Spanish belonging.

Although the mortality of the Indians has been recognized as the defining feature of the sixteenth century, it has largely been treated as a problem of numbers.[22] Historians have compiled painstaking data to determine the magnitude of the loss, and the possible causes, but they have largely ignored the Spanish reaction to depopulation. This study juxtaposes ideas and discourse about pestilence and disease taking place on either side of the Atlantic, highlighting the importance of habits, environment, and contagion in Spanish ideas about pestilence and mortality. While many historians stress natives' lack of resistance to imported disease, Spanish clerics and officials tended either to blame the Indians, for living disorderly lives, or the Spanish project for "consuming" the Indians.[23]

In many ways Spaniards saw the Indians as an extension of the land, and used them as a lens to understand it. By focusing on the production of natural knowledge throughout the first three generations, this study rounds out a picture of the Spanish

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[20] As we will see in detail in the following chapters Spanish clerics and officials began to think of the mortality of the Indians as a product of Spanish "consumption."

[21] Writing in the 1530s Vasco de Quiroga described the Indians as "numberless" like grains of sand or the stars in the heavens. Vasco de Quiroga, *La Utopía En América*, ed. Crónicas de América, Edición De Paz Serrano Gassent (Madrid: Dastin, 2002), 62.

[22] See: Woodrow Wilson Borah and Sherburne F. Cook, *The Indian Population of Central Mexico, 1531-1610* (Berkeley: University of California Press, 1960), Thomas M Whitmore, *Disease and Death in Early Colonial Mexico: Simulating Amerindian Depopulation*, Dellplain Latin American Studies, No. 28 (Boulder, San Francisco, Oxford: Westview Press, 1992), Noble David Cook, and W. George Lovell, ed, *Secret Judgments of God: Old World Disease in Colonial Spanish America* (Norman: University of Oklahoma Press, 1992).

[23] See for example: Cook, ed, *Secret Judgments of God: Old World Disease in Colonial Spanish America*.

Cosmo-Vision, detailing the incorporation of New Spain's natural landscape and her inhabitants. This contributes a new layer to work done on Spanish belonging. Historians such as Anthony Pagden and Lewis Hanke have elaborated the Spanish search for "justice" (i.e. belonging) and the importance of religious and historical narratives in Spanish claims to the New World.[24] Both authors detail the theological and philosophical contexts behind Spanish justifications for the conquest and domination of the Indians. They also deal with issues concerning the "nature" of the Indians, especially as it related to their humanity, but they gloss over the role of natural philosophy in these constructions.

This project contributes a new periodization and spatialization to our understanding of the identification process. Historians such as David Brading, Solange Alberro, and Jacques Lafaye have examined the burgeoning local identity, but they have tended to focus on the creation of a "creole consciousness," ignoring these texts and this era, and focusing instead on the later half of the seventeenth century and intellectuals such as Sigüenza y Góngora and Sor Juana de la Cruz.[25] These authors accentuate the divide between creoles and peninsulars in a teleological progression culminating in Mexican Independence. This study emphasizes the importance of habits and place in the construction of a local identity, arguing that localism was tied to civic identity and the adoption of local habits and products, despite natality. That is, both creoles and resident Spaniards began to imagine themselves in relation to the land in general, and Mexico City in particular, which they increasingly saw as the center, rather than the periphery.

By highlighting the importance of place and heredity this work seeks to complicate our understanding of the identification process in the early modern world. Recent scholarship on this topic has proposed that the Spanish Americas witnessed the first

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[24] Anthony Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology* (Cambridge University Press, 1982), Lewis Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America* (Boston: Little, Brown and Company, 1965).

[25] David Brading, *The First America: The Spanish Monarchy, Creole Patriots, and the Liberal State, 1492-1867* (Cambridge University Press, 1991), Solange Alberro, *Del Gachupín Al Criollo: O De Cómo Los Españoles De México Dejaron De Serlo*, Jornadas 122 (Mexico City: El Colegio de México, 1997), Jacques Lafaye, *Quetzalcóatl and Guadalupe: The Formation of Mexican National Consciousness 1531-1813*, trans. Benjamin Keen (Chicago: The University of Chicago Press, 1974).

"knowledge regime" of heredity.[26] As evidenced in the *Casta* paintings of the 1700s, which depicted gradations of racial mixture between Europeans, Africans and Amerindians living in the Americas, Spanish Americans began to think in terms of inheritance rather than generation.[27] This acceptance of heredity ran counter to the predominant understanding in Europe, where each act of generation was seen as a unique event, involving the complexion, health, and imagination of the parents, environmental and astral influence, and other accidents of nature. Doctors had long noted the inheritance of disease, such as hemophilia, but understood it in terms of common factors. As Hans-Jörg Rheinberger and Staffen Müller-Wille point out, "[t]he problem was not to explain how properties were transmitted, but rather to explain how the same causal agents that once had been involved in the generation of ancestors apparently could remain active in the generation of their remote descendents."[28] Place explained more about the individual than ancestors. As these authors note, it was only when ties between place and what Spaniards called "nations" dissolved, that a need arose "for a complex metaphor like heredity to be applied in order to account for the proliferating phenomena of change and stability."[29]

I argue that the construction of the creole by Cárdenas, Martínez and Cisneros represented one of the first applications of this metaphor, and that this construction reflected the same sort of "knowledge regime" depicted graphically in the *casta* paintings. The conflagration of peoples in the New World encouraged Europeans to re-imagine their relationship to both place and parent, emphasizing notions of heredity, without completely undermining prevailing ideas about environmental influence. Far from home, Spaniards maintained their "Spanishness" in their bodies, passing it along to offspring who inherited the "essential" quality of their forefathers along with the "nature" of place. Yet to imagine this transfer in relation to "race" is to overlook the importance

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[26] Staffan & Hans-Jörg Rheinberger Müller-Wille, ed, *Heredity Produced: At the Crossroads of Biology, Politics, and Culture, 1500-1870* (The MIT Press, 2007).

[27] "*Las Castas*: Interracial Crossing and the Social Structure, 1770-1835" Renato G. Mazzolini, pp. 349-374, Ibid.

[28] Ibid., 5.

[29] Spanish *naciones,* commonly used to describe socio-political units. The Spanish referred to the many different peoples in the New World as *naciones*. This term was also used when differentiating the Spaniards from Indigenous Americans. Quote: Ibid., 18.

of place, which still provided the basis for "Spanishness," and to simplify this transfer to one involving skin color, which these authors imagined as an "accidental" quality.[30] The transmission that these authors described was wrapped up in the cosmic order of places and the transmission of a physicality in which vital heat combined with the domination of the rational soul.

Focusing on Spaniards' relationship to the land, and the role of natural philosophy in constructions of belonging, this work contributes a new perspective to our understanding to the Spanish identification process.[31] The same environmental theories that convinced Columbus to sail south provided rich fodder for the construction of American nature and bodies. Throughout the sixteenth century clerics, royal officials, doctors and other colonists referred to these ideas in their attempts to understand the nature of New Spain, the Indians and their own place in the New World. This study understands these constructions within the context of Spanish belonging, tracing corporeal imaginings from the conquest. In this way, this study serves as an environmental history of a people.

This work also contributes to a growing body of works on the history of science in the early Spanish Atlantic, highlighting the development of a local culture of science. Although the Indians' natural knowledge was seen as deficient, and most Spanish natural philosophers believed that native knowledge needed to be mediated and "perfected," they also relied on the knowledge, skills and production of native actors. Analyzing the "scientific" production throughout this period, this work highlights the process of

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[30] In his 1999 article "New Star, New Worlds…" Jorge Cañizares Esguerra argued that "the science of race, with its emphasis on biological determinism, its focus on the body as the site of behavioral-cultural variations, and its obsession with creating homogenizing and essentializing categories, was first articulated in colonial Spanish America in the seventeenth century, not in nineteenth-century Europe." He has since modified his conception of race, recognizing the malleability of both the human body and racial categories in the early modern period. See: Cañizares- Esguerra, "New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600- 1650..", 35, "Demons, stars, and the imagination: the early modern body in the Tropics" in Miriam Eliav-Feldon, Benjamin Isaac, and Joseph Ziegler, eds., *The Origins of Racism in the West* (Cambridge University Press, 2009), 320.

[31] Tracing the evolution of the *vecindad* and *naturaleza* as categories of belonging, Herzog argues that we cannot view early modern community membership using modern concepts of citizenship. As she states "the question was never who was a Spaniard, who was a Frenchman, or who was a citizen of a local community" but "who could enjoy a specific right or be obliged to perform a certain duty. Spain, Herzog contends, was not a geographical idea or a political unit, but neither was it and ideological identity, rather "*naturaleza* constituted a community that defined who could enjoy the rights of Spaniards." She argues that "we need to abandon the quest for "identity" and examine instead processes of "identification," that is, the process through which people claimed to be or were identified as members of the community." Herzog, *Defining Nations; Immigrants and Citizens in Early Modern Spain and Spanish America*, 4, 10, 6.

appropriation taking place in New Spain, as doctors, chroniclers, and friars commodified both the knowledge and products of the kingdom. These actors created their authority vis-à-vis the ancient authors, with whom they were still in dialogue, by privileging their "experience" of the New World and its products. At the same time, they believed that their classical training gave them a special ability to "read the book of nature," enabling them to "perfect" native knowledge and the natural products they encountered in New Spain. By juxtaposing the scientific production of the second generation (1550-1590) with that of the third generation (1590-1620) this work demonstrates the transition taking place in the colony, as patronage supporting the production of natural knowledge shifted from the *Casa de Contratación*, to local *cabildos*, universities, and audiences. While the works of the second generation looked toward the consolidation of empire and the expansion of Spanish markets, those of the third promised "utility" in the kingdom itself, addressing local discourse about the nature of New Spain and her residents.

I argue that these scientific works represent a moment in New Spain, when the young kingdom shifted from periphery to center in the minds of her "Spanish" residents. By the turn of the seventeenth century Spaniards, both creole and peninsular Spaniards, began to imagine the land as their own and they confidently extended their designs over its surface. Reimagining the human and physical geography of New Spain, the viceregal administrations at the turn of the century imposed a Spanish form on the "dispersed" Indian population and the lagoon surrounding Mexico City. Both the civil congregation and the Desagüe de Huehuetoca forced Indians into the Spanish mold, ordering their lives according to Spanish ideas about civilization and *policía*. At the same time, Cárdenas, Martínez and Cisneros re-imagined the fundamental relationship between Spaniards and the land, encarnalizing the social order of the kingdom. The texts of these authors reflect the hybridity of Mexico City, and the cultural divide between creoles and peninsular Spaniards, but their agreement on the identity of the creole demonstrates the essential unity between these groups. Creoles, they argued, might have adopted the habits of the Indians, such as taking chocolate, smoking tobacco, or eating *atole*, but they were still fundamentally Spanish. This Spanishness was in their bodies and could not be undone by habits or place. Creoles like their Spanish parents were "essentially" choleric: fiery, intelligent, masculine, and prudent- capable of overcoming their physicality and ruling

others. This disposition, these authors argued, allowed them to resist the heavenly influences which made the Indians, their fellow natives, childish, soft, and lazy. While "regional contagions" or astral effects killed the Indians, these authors argued, creoles received only the beneficial influence of the Sun. In a period when many assumed the eventual complete depopulation of the Indians, Spanish nativeness took on new relevance. By hinging Spanish belonging on a relationship to the land, these authors completed the process of Spanish appropriation, creating new Spaniards to people and rule over an increasingly diverse population.

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The first chapter, "Nature of their Fatherland: Spanish Ideas about Place, Body, and Belonging," examines the way that Spaniards understood their bodies and their place in the world. Using Spanish texts on natural philosophy and medicine in conjunction with inquisition records, and works by classic authors, such as Pliny, Albertus Magnus, Ptolemy, etc, it provides a context for the works of Cárdenas, Martínez and Cisneros. The chapter starts off examining the intellectual tradition inherited by these authors, concentrating on the issue of authority, and the spaces opened up by the "discovery" of the New World. Next it moves on to describe the way that Early Modern Europeans imagined the *world machine* and all of its machinations. Starting with the construction of the cosmos as a whole, it continues down the chain of operations to the generation of man, whom Martínez and others, imagined as the "abbreviated world." Discussing ideas about place and body, place and personality, and place and health/death, it emphasizes the importance of geographic location in early modern imaginations of identity, belonging, and mortality.

Chapter 2, "Hearts like Fire: The Spanish Evangelizing Mission in New Spain," looks at Spanish belonging in the context of territorial expansion. Based primarily on secondary sources and the chronicles of men such as Juan de Oviedo, Toribio de Motolinía, and Vasco de Quiroga, it focuses on religion in constructions of belonging and "Spanishness," and the way that experiences in Granada and the Canaries shaped the way that Spaniards perceived their "rights" in the New World. It argues that the expulsion of the Moors and Jews fundamentally altered Spanish notions of belonging. Whereas

natality had once determined subjecthood (even if unequal), and belonging in Castilian law, naturaleza, or "nativeness" was no longer sufficient. Belonging rested on conversion, and Spanishness was consciously constructed as Catholic in opposition to Islam, Judaism and Protestantism. This was carried to the New World, where the text of the Requerimiento formalized the relationship between conversion and subjecthood to the Castilian Crown, establishing Spanish rights based on the papal donation and "just war." This chapter looks at the first generation of Spanish conquest and settlement and the way that residents, clerics and officials imagined the nature of New Spain and its peoples. These writers created tropes such as the "potential Indian," the "drunk Indian" and the "consumption of the Indians" that would carry on throughout the sixteenth century.

Chapter 3, "Understanding the Laws of Nature: The Spanish Civilizing Mission and Scientific Production in the Second Generation," looks at the way Spaniards understood their own technological superiority. From the moment of first contact with the peoples of the New World, Spaniards assumed that they were both culturally and technologically superior to the Indians. Above all, they assumed that they had a privileged understanding of God and nature, and that this knowledge gave them paternal rights over the Indians, who, like children, needed to be taught how to live correctly. In New Spain, they saw themselves following the Mexica, a formerly savage tribe who had been civilized upon arrival in the valley by their association with the peoples descending from the former Toltec empire. The Mexica, quickly controlled the valley bringing what the Spanish understood as the rudiments of civilization to the "savage" nations they conquered. While the Mexica had "tamed" the Indians, giving them government, agriculture, and a misguided religion, the Spanish sought to bring them "policia" and a Christian lifestyle. The Spanish civilizing mission went beyond the mere implementation of Spanish "justice" or government to the reformation of daily habits, and a spatial re-organization of Indian lives in Spanish style towns. This chapter also looks at the scientific production of the second generation, focusing on characterizations of the Indians and the commodification of their knowledge and the medicinal products of the kingdom.

Chapter 4: "Sucking the Blood of the Indians: Indian Mortality during the Seventeenth Century" looks at Spanish discourse on Indian mortality and way that this mortality affected Spanish belonging. Looking at ideas about pestilence and mortality on

both sides of the Atlantic it tries to understand the intersection between body, disease, and habits in the Spanish imagination. The mortality of the Indians both encouraged and challenged discourse surrounding the "civilization" of the Indians. On one hand, mortality opened up space for the appropriation of land and discourse on the "civilization" of the Indians, through "congregation." This discourse stressed the "disorganization" and bad habits of the Indians. On the other hand, mortality challenged Spanish belonging by calling into question the order imposed by Spanish rule. This discourse took up the trope of "consumption" of the Indians, and calls for reform.

Chapter 5: "Inconvenient Indians: The Civil Congregation and the Desagüe of Huehuetoca" looks at the politics of New Spain at the turn of the seventeenth century. Re-imagining Borah's "century of depression" this chapter argues that this period saw the apogee of viceregal power, and collusion between the creole elite and the viceroys in this period. This is exemplified by the implementation of two enormous engineering projects: the civil congregation and the Desagüe de Huehuetoca, a drainage project intended to level the lagoon surrounding Mexico City. Both of these projects remade the landscape and human geography of New Spain, the first re-organized the Indians into more convenient polities, the second brought them into the market economy.

Chapter 6, "A Microcosm of Two Worlds: New Spain and New Spaniards," examines the cosmic and social order of New Spain at the turn of the seventeenth century. Focusing on the texts of Bernardino de Balbuena, Juan de Cárdenas, Juan de Barrios, Enrico Martínez, and Diego de Cisneros this chapter examines the scientific culture at the turn of the seventeenth century. It argues that the scientific and technological productions generated in New Spain reflected a new orientation among creoles and resident Spaniards, who began to re-imagine their relationship to the land. These texts provide a window into both the culture of science in the kingdom and the adoption of local products, foods, and habits. They also described the physical differences between the peoples of the kingdom and their relationship to the land and heavenly influences of New Spain, explaining Indian mortality and providing a new basis for Spanish belonging.

Chapter 1. Nature of their Fatherland: Place, Body, and Belonging

> "For I delight in the law of God according to the inward man. But I see another law in my members, warring against the law of my mind, and bringing me into captivity to the law of sin which is in my members. O wretched man that I am! Who will deliver me from this body of death? I thank God- through Jesus Christ our Lord! So then, with the mind I myself serve the law of God, but with the flesh the law of sin." (Romans VII: 22-25)
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> "The world is a book written by the finger of God, to make manifest to men his knowledge, goodness, and omnipotence." (Miguel Pérez, *Teatro y descripción del mundo y del tiempo* (1616))

The world inhabited by sixteenth century Spanish bodies was ruled by laws of affinity and repulsion. Man's body occupied a crucial space between base and light, between God and the material world. Though composed – as the rest of the material world – of the same elements that comprised the inferior world, man's body connected him to the superior world through the operation of the rational soul. This faculty allowed man to transcend his materiality, and to understand the natural world, the book of God. All men, however, did not have the same capacity in this regard. As Miguel Pérez, a Spanish cosmographer noted, "few men find that they can read the book, and fewer reading it actually understand it."[1]

As recent historiography has demonstrated, place played an important role in the way that early modern natural philosophers understood man's capacity and place in the world. As Wey Gómez has recently shown, the tripartite division of the world, enumerated by authors such as Ptolemy (90-168 AD), dominated European ideas about geography and the body.[2] This theory proposed the physical superiority of "temperate" peoples, those born in the middle regions of the habitable world. While northern peoples were thought

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[1] "Con todo esso son pocos los hombres que se hallan leer este libro, y muy menos los que leyendolo, entienden…" Miguel Pérez, *Theatro Y Descripcion Del Mundo Y Del Tiempo. En El Qual No Sólo Se Describen Sus Partes Y Se Dá Regla En El Medirlas, Mas Con Ingeniosa Demostracion Y Figuras Se Verá Lo Mas Importante De La Astrologia, Theórica De Plantas, Con El Conocimiento De La Esphera, La Causa Del Crecer Y Menguar De La Mar, En Qué Lugar, Hora Y Tiempo, Etc. Compusto Por Juan Pablo Y Gallucio Salonense. Traducido Del Latin En Romance Por Miguel Pérez, Mathemático Y Astrólogo, Capellan Del Rey Nuestro Señor En Su Real Capilla De Granada. Y Añadido Por El Mismo Muchas Cosas Al Propósito De Esta Ciencia, Que Faltaban En El Latin.* (Granada: Sabastián Muñoz, 1616), 1.

[2] Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies*.

to be fierce and strong, they were also dim-witted because their minds were clouded by the humors from the body. Southern or tropical people were considered intelligent, but weak and vice ridden because the heat of the land sapped the internal heat of their bodies. Those in the middle region, such as Greeks and Romans, enjoyed the audacity that came from internal heat, and the wisdom of a clear mind. "[N]atural places," Wey points out, "were thought to assign nations their unique positions in the hierarchy of polities as well as their roles in teleological history."[3] Place provided the glue that held the cosmos together and the placement of things reflected the divine order imposed by the creator over the *machina mundi*, or machine of the world, and Spaniards imagined their place in the world in relation to their bodies and a geography of superiority.

This chapter looks at ideas about place, body and belonging in Spain, and the intersection between theology and natural philosophy, God and nature. Fleshing out the physicality of superiority, this chapter contributes to Wey's analysis by explaining the mechanics behind "temperateness" and the generation of man. This sets up a background against which to understand Spanish constructions of Indian bodies throughout the sixteenth century and the theories of Juan de Cárdenas, Enrico Martínez, Juan de Barrios, and Diego Cisneros detailed in chapter six. These two chapters function as book ends, juxtaposing ideas about the body that arose contemporaneously on either side of the Atlantic. While this chapter looks at the construction of Spanishness on the peninsula, chapter six describes the inheritance of "Spanishness" as imagined by Cárdenas, Martínez, and Cisneros.

I. Truth and Knowledge

Sixteenth- and seventeenth-century Spanish conceptions of the natural world were based on a conglomeration of ancient and "modern" ideas that were bounded by Church doctrine and biblical authority.[4] Juan Huarte de San Juan, a doctor from Madrid, represents both the "modernity" of his generation, and the role of theology in understanding the natural world. Huarte's very popular *Examen de Ingenios* proposed a

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[3] Ibid., 69.

[4] Modern in the sense that they were self-consciously constructed in opposition to the received wisdom of the Ancients and based, largely on experience.

system for understanding the "signs" sown by nature (and consequently God) in the human mind, so that Spain's intellects could be used to utmost advantage.[5] Huarte like most of his contemporary's imagined knowledge, history and the natural world in relation to the Fall of Man.. According to this conception, knowledge was finite and true, something both lost and "discovered." According to Huarte, Adam was the only man born with all of the arts and sciences infused. After the fall Adam passed on some of his knowledge to his sons, but much of it was forgotten, only to be "rediscovered" by brilliant minds such as Aristotle or Plato. These authors carried great weight, and their ideas provided the foundation for early modern theories about the natural world and man's ability to know it. However, Huarte warned, one must not rely on the authority of these great men, because "the same author that created Aristotle made you (*vos*) and could fabricate another even greater."[6] Huarte and his contemporaries imagined themselves capable of surmounting the knowledge of the ancients, but their ideas about man and nature were still very much constrained by biblical authority, and their gaze went back to a Mediterranean world dominated by Greek and Roman luminaries.

The tendency to cleave to the medieval intellectual tradition was further encouraged in the Spanish World by an overriding sense of Christian destiny and the consolidation of Catholic dogma in the face of the Protestant Reformation. Knowledge was constricted by the imperatives set out by Church doctrine and, more subtly, by a general belief in the authority of scripture. Those who crossed doctrinal boundaries were subject to the Inquisition, which became increasingly concerned with questions related to natural knowledge throughout the seventeenth century. Although experience began to trump textual authority as a way of knowing, the contours of knowledge were still defined by certain "truths," such as the common ancestry of all peoples or the existence of free will, and biblical authority still determined the machinations of the natural world.

Although astrology (the science of studying astral effects on the material world) occupied a marginal status in Counter Reformation Spain, having been limited to medicine, weather, and navigation by the Council of Trent (1545-63), astrological texts

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[5] Juan Huarte de San Juan, *Examen De Ingenios*, ed. Guillermo Serés, Letras Hispánicas (Catedra, 1989), 34.

[6] Ibid., 337.

were well represented among the "scientific" publications on both sides of the Atlantic. José Maria López Piñero, a Spanish historian of science, notes that the period between 1590 and 1600 was the most prolific period of scientific production in early modern Spain.[7] Breaking down his list of 572 scientific manuscripts and books produced in Spain in the sixteenth century, he notes that medical treatises (25.54%) made up the highest percentage, but that astrological and cosmographic works (14.29%) comprised the second largest group.

These texts ranged from purely astronomical works, such as Jerónimo Chaves' famous redaction of Juan de Sacrobosco's *De Sphera,* to manuals on how to raise horoscopes, such as Francisco Juntino's widely copied manuscript.[8] Many prognosticated the outcomes of comets or important astral events such as the conjunction of planets. These works often dealt with the fate of nations, playing up Spain's fortunate position in relation to astral events. Francisco Navarro examined the results of the 1603 conjunction of Saturn and Jupiter, saying that according to Hali, Albumazar, and Ptolemy, the domination of Jupiter "signifies augment and happiness in all things." Therefore the conjunction promised "the destruction and reduction of tyrannical powers [read the Turks] and great victories, remunerations and the augmentation of patrimony for Spain, whose sign is propitiously Sagittarius."[9] Others offered practical information,

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[7] Publication of texts rose steady throughout the sixteenth century. José María López Piñero, *Ciencia Y Técnica En La Sociedad Español De Los Siglos Xvi Y Xvii* (1979), 53.

[8] Juntino's treatise seems to have circulated widely in New Spain. A copy was listed in the collection of Melchor Pérez de Soto. Archivo General de la Nación, hereafter, AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto* (1655), The work was also cited by Fray Nicolas de Alarcón as the primary basis for his own prognostications. AGN, *Inquisicion, Vol. 370, Exp. 1, Ff. 1-195, Nicolás De Alarcón (Astrología Judiciaria)* (1640), 123v. Chaves, *Tractado De La Sphera Que Compuso El Doctor Joannes De Sacrebusto Con Muchas Additiones. Agora Nuevamente Traduzido De Latin En Lengua Castellana Por Jerónimo De Chaves El Qual Añidio (Sic) Muchas Figuras Tables Y Claras Demonstraciones: Junctamente Con Unos Breves Scholios, Necessarios Á Mayor Illucidacion, Ornato Y Perfecion Del Dicho Tractado*..

[9] "Significa segun doctrina de Albumazar, Alcabicio, y los demas Arabes, grandeza y notabilissima prosperidad al Rey, y Reyno de España, y que se dilataran notablemente los terminos del imperio y Monarchia de V. Magestad, y sera el nombre de V. Magistad grande y famoso en Reynos estraños, reconociendole vassallage los que de nuevo se conquistaran; adquisicion de nuevos Reynos, fama y eternos loorels y alabanzas: todo lo qual dizen y consiessen los mismos Astrologos moros, diziendo; que estas prosperidades han de suceder a los Reyes de aquellas Provincias que estan subjectas al signo de la conjuncion. Y como es desta de que tratamos sea Sagitario, y este predomine a España mas señalada y fuertamente como los mismos Arabes confiessen, ellos contra si mismos pronostican este grande prosperidad, significada por esa conjuncion, al que ha de ser valeroso executor de su grandes significaciones para total destuycion dellos. Y añade Alcabicio, que esta decima casa, en la qual se han

in the form of weather predictions based on astrological occurrences. Called *Lunarios* or *Reportorios,* these texts offered descriptions of the heavenly machine, the stars and planets, the signs, and their effects on the sub-lunar world including weather predictions and calculations for purging and bleeding.[10]

Astrological readings also were commonly made upon the inauguration of a prince or important government figure. In 1688, Leonardo Ferrer wrote a tract commemorating the inauguration of Señor Don Luis de Moscoso Osorio Hurtado de Mendoza, the new Viceroy and Captain General of the kingdom of Valencia. Ferrer declared that he had undertaken this task although he himself was not an astrologer, because "it is true that you find in the Book of the Heavens, an Epilogue of the operations of Princes and their governments in the hour of their inauguration."[11] He also included a caveat concerning the accuracy of these predictions, stating that "observation, mother of the sciences, has taught us this truth, and although the influence of the stars may not be evident, or

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juntada los Planetas, levantada la figura para el Orizonte susodicho, es casa real: significa exaltaciones del Rey, adquisicion de Imperios, y de eternidad de nombre, y fama del Rey: significa prudentes Conserges, Juezes, y Prelados, y grande industria, y audacia y magnanimidad en el invictissimo animo de V. Catholica Magistad, y que hara V. Magestad nuevas leyes muy provechosas, tocantes a la Religion, o pondra en execucion algunas que en esta materia por negligencia estan olvidadas. […] Señala la Luna in septima en el signo esteril de Virgo, y Venus en el de Capricornio comobusta con los rayos del Sol la subita y repentina ruyna de la secta Mohometana, y de todos los Sarrecenos, y señaladamente del Imperio y estados del Turco..." Francisco Navarro, *Discursos Sobre La Coniuncion Maxima, Que Fue En Deziembre Del Año 1603. En El Qual Se Pronostican Los Felicissimos Succesos, Y Victorias Que Señala Al Rey Don Phelipe Iii, Nuestro Señor, Y a Su Gente Sagitaria, Que Son Los Españoles* (Valencia: Juan Chrisostomo Garriz, 1604), 12.

[10] Jerónimo Cortés, *El Non Plus Ultra Del Lunario, Y Pronostico Perpetuo, General Y Particular Para Cada Reyno, Y Provincia: Compuesto Por Jerónimo Cortés. Agora De Nuevo Visto, Y Corregido Conforme El Indice Ultimo Expurgatorio De La Santa Inquisicion, Por Le Padre Geronimo Vidal De La Compañia De Jesus. Calificador Del Santo Oficio, En Barcelona Á 22 De Julio Año 1632. Va También Añadido a La Postre Una Inbecion Curiosa Con Unos Apuntamientos, Y Reglas, Para Que Cada Uno Sepa Hazer Pronosticos, Y Discursos Annuales, Acerca De La Abundancia, O Penuria Del Año* (Barcelona Antonio Lacavalleria 1670), Joan Alemany, *Lunario O Reportorio De Los Tiempos Compuesto Nuevamente Por El Muy Abil Astrologo Juan Alemany, En El Qual Se Hallaran Las Conjunciones, Opposiciones, Y Quartatiles (Quel Vulgo Llama Quintos) De La Luna Hasta El Año Mdcx. Y Agora De Nuevo Impresso, Añadido Y Mehorado, Por Su Autor Y Examinado Pro Mandado Del Rey Nuestro Señor* (Valencia: 1553; reprint, Was reprinted in Toledo by Juan Ruiz 1593- this edicion in NY Hispanic Society), Diego Otañez de Escalante, *Reportorio Perpetuo De Los Tiempos, Muy Copioso, Conforme a La Reformación Y Computación De N.B.P Gregorio Xiii* (Alcalá: Juan Gracián, 1584)..

[11] Leonardo Ferrer, *Celeste Lyra, Acordada En La Feliz Hora De La Entronización, Y Juramento Del Excelentisimo Señor Don Luis De Moscoso, Osorio, Hurtado De Mendoza....Virrey, Y Capitan General De Reino De Valencia* (Valencia: Francisco Mestre, 1688). Pues es cosa cierta que se halla en el Libro de los Cielos, un Epilogo de las Operaciones de los Principes, y de sus goviernos, en la hora de sus Juramentos; en que conjeturalmente el que quisiere registrar sus hojas, cuyos caracteres son luminosos Astros, aunque dificultosos de entender, investigará soberanas inteligencias."

infallible, nor necessary, it is true that they move and incline."[12] This aside, Ferrer's descriptions fall more in the realm of counsel than prediction. As Francis Ramos, Linda Curcio-Nagy, and Alejandro Cañeque have shown, often the pageants and ceremonies surrounding inaugurations were a way of demonstrating the expectations of the new leader.[13] These astrological readings may have worked in a similar fashion. Thus Ferrer "predicted" that the positions and the prominence of Mars and Leo would "incline Your Excellence to put down disturbances, without sparing work, fatigue or weariness, for the common good of the kingdom, procuring its peace and quiet, conquering with your industry prudence and power."[14]

Astrological predictions were often political in nature, and fairly vague. Juan de Puget, however, offered His Majesty Philip the III a specific warning. Puget counseled the king that between the fifteenth and thirtieth of June 1619, he should not listen to a widow the color of wheat "whose conversation would result in great displeasure that would be difficult to remedy."[15] He also predicted great civil wars in Africa, which would result in much loss to His Majesty and few souls saved.[16] In Francisco Navarro's treatise on the maximum conjunction of 1603 dedicated to King Phillip III, he not only predicted the fall of Islam based on a series of conjunctions, but added biblical text

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[12] Ibid. "Y la observancia, madre de las Ciencias, ha enseñado esta verdad; y aunque no sea evidente, infalible, ni necesario el influxo de los Astros; es cierto que mueven e inclinan."

[13] See for example:Frances L. Ramos, "Succession and Death: Royal Ceremonies in Colonial Puebla," *The Americas* 60, no. 2 (2003), Linda A. Curcio-Nagy, *The Great Festivals of Colonial Mexico City; Performing Power and Identity* (Albuquerque: University of New Mexico Press, 2004), Alejandro Cañeque, *The King'S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico* (Routledge, 2004)..

[14] Ferrer, *Celeste Lyra, Acordada En La Feliz Hora De La Entronización, Y Juramento Del Excelentisimo Señor Don Luis De Moscoso, Osorio, Hurtado De Mendoza....Virrey, Y Capitan General De Reino De Valencia*. "inclinará a V.E. a sujetar á los inquietos, no perdonando el trabajo, fatigues, y cansancios, por el bien comun del Reyno, procurando su paz, y quietud, sojuzgando con su industria, prudencia, poder."

[15] "Desde 15, de Junio, hasta 30 de 1619 de ninguna manera escuche V Magestad a una dama de color trigueño, v biuda, que de su conversacion resultarà en V Magestad grandissimos disgustos unos tras otros y no pensados, ni facilimente remediables." Juan de Puget, *Breve Y Curiosa Relacion Del Discurso Ha Hecho Moussur Juan De Puget, Ayuda De Camara Del Rey Christianissimo, Y Su Secretario Del Consejo De Guerra, Sobre Las Cometas Que Han Aparecido Este Año De 1618.....* trans. Diego Alvarez de Salcedo (1618), 2v.

[16] "Toda Africa serà llena de guerras, con mucha perdida suya, y poca ganancia de Christianos: que (aunque se señorearan de muchas tirerras) por la particion y division dellas, auran guerras civilies entre ellos, y levantarse ha peste de muchos cuerpos muertos sin sepultar entre vivos (miserable estado) que obligarà a navegar presto, cosa oridnaria, mal tras bien, *Quia extrema gaudii luctus ocupat*." Ibid.

foretelling the event. Navarro claimed that it was the great size of Saturn and Jupiter that caused such drastic changes on earth when they are in triplicate, and cited the great "Arab" Astrologer Albumazar as an authority for his prediction. Using the art perfected by the "Arabs," Navarro predicted that the conjunction of these two planets in Sagittarius would cause the fall of the Turks, but "great growth of the Royal patrimony" and other benefits to Sagittarius-ruled Spain, while causing "calamities… and war" in many other lands. Finally, he promised that His Majesty's name would be famous in foreign and newly conquered lands.[17]

It is hard to guess the level of acceptance of astrology, but we know from the marginalia extent in many works that readers frequently engaged their contents. Often readers made their own calculations, added missing information or charts for subsequent years, or noted the accuracy of prognostications. In one edition of Bartolomé de Valle's *Explicacion y Pronostico de los dos Cometas*, a lector made comments about the fruition of the prognostications.[18] Next to a passage discussing the effect of Mars and Venus and the tail of Cancer, which Valle optimistically believed might cause "the fall of enemies, loss of their goods, distrust in the things they hope for, and forgetting of their sect, pestilence, epidemics, and the destruction of buildings," a reader wrote the phrase "has not happened."[19] But the work is also filled with notes saying "has happened" and "attention!"[20]

However, many people also doubted the science, taking it for a joke. One satirical tract entitled *Pronostico lunatico, deste año, y de todos los demas hasta el fin del mundo,*

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[17] Navarro, *Discursos Sobre La Coniuncion Maxima, Que Fue En Deziembre Del Año 1603. En El Qual Se Pronostican Los Felicissimos Succesos, Y Victorias Que Señala Al Rey Don Phelipe Iii, Nuestro Señor, Y a Su Gente Sagitaria, Que Son Los Españoles*.

[18] For more on this see: Antonio Hurtado Torres, *La Astrología En La Literatura Del Siglo De Oro: Índice Bibliográfico* (Alicante: Instituto de Estudios Alicantinos, , 1984).

[19] "Marte en la undecima, promete poco provecho en las cosas de que se esperava utilidad, anuncia caeren en enemistades de sus amigos, perdimiento de sus bienes, indica desconfianzas de las cosas en que tienen sus esperanzas. Venus en la tercera signifaca olvido de sus secta, y poco curan della. La cola en Cancro promete peste, perniciosa epeidemia, anuncia muertes inopinadas, destruyacion de edificios." Bartolomé Valle, *Explicacion Y Pronostico De Los Dos Cometas* (Granada: Franc. Heylan y Pedro de la Cuesta, 1619).

[20] In one example the lector notes "pasa" next to a passage foretelling calamities and infirmity among clerics, and old people, as well as women. "por la presencia del segundo Cometa en la undecima, que la infortuna, y Venus señora della y la ineptitud de Marte en la sexta annuncio, passaran infortunios, y algunas calamidades, y enfermedades, los exercitos, y amenaza padeceran los mismo Religiosos, y viejos, Saturno retrogrado, y Venus annuncia mal a las mugeres, mayormente mocas…" Ibid.

para toda la Christianidad, parte de Turquía ,Guinea, y el Japon, Marchena, Paris, Cabo de Gata, y la isla de la Cucaña was published in 1656. This "Lunatic Prognostication, of this year and of every other year till the end of the world, for all of Christianity, part of Turkey, Guinea, Japan…" spoofed the many astrological treatises. Punning on the similarity between lunario and lunático, the supposed author (*Beltran of the Very Dusty, Nigromantico never seen*…) gave several prognostications. "Beltran" guessed that the coming year would be ruled "by the man who has money," while he who had none would be the slave of the year. Using the language of astrology, which frequently referenced great Arab astrologers, he foretold humorous eventualities. He wrote that, "as the Sun is entering into Capricorn, say the Arabs, this promises great harvests of nightmares for the married and those devoted to Nuns. And, because Venus is looking in trine at Venus, [there will be] great lack of pastries for poor students and pages…but an abundance of parsley."[21] Likewise because of the "entrance of Mars in the house of gluttony, great wars, battles, and deaths menace in the book of Oliveros de Castilla"[22] while in Extremadura four princes will unite for a hunt, "causing great fear among the rabbits."[23] This satirical astrological work suggests that many Spaniards did not take astrology seriously.

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[21] "Este año no sé si aurá algun Eclipse, ello dirá. Señor del año es que tiene dineros; y el que no los tiene, esclavo del año. Y por entrar el Sol en Capricornio dizen los Arabes que prometen gran cosecha de pesadumbres a los casados y dovotos de Monjas. Y por mirar de trino á Venus, gran falta de pasteles á Estudiantes pobres, Escuderos y Dueñas de homor, pero muchas abundancia de perejil, y califeros a los niños de la cuna. Veranse muchos fuegos en el ayre la noche de San Pedro sobre la Torrey de las Iglesia mayor, y por muchas calles de Sevilla el Jueves Santo en la noche, y en algunos lugares de su comarca, y grandes aparatos de guerra en la Armeria de la Alhondiga." Beltrán de la Mucha Polvareda, *Pronostico Lunatico, Deste Año, Y De Todos Los Demas Hasta El Fin Del Mundo, Para Toda La Christianidad, Parte De Turquía,Guinea, Y El Japon, Marchena, Paris, Cabo De Gata, Y La Isla De La Cucaña...* (Madrid: Julian de Paredes, 1656).

[22] *Oliveros de Castilla* is a French chivalric novel popular in Spain during the 16th century, along the lines of Quixote.

[23] "Ser á tanta la confusion de novedades, y sacessos prodigiosos deste año, que no los entenderá el gran diablo de Palermo. Ciceron dize, que por entrar el Planeta Marte en la casa de la gula, amenaza grandes guerras, batalleas, y muertes en el libro de Oliveros de Castilla, y Orlando furioso; y que en tierra de Extremadura se juntarán quatro Reyes diferentes para un primera Oiranse algunos tiros de escopeta, que causarán gran temor á los conejos. Y por estar Saturno en el pescuezob del Dragon (que no ha de estar siempre en la cabeza) dize Alquin lo que será esta año abundante de semillas, porque predomina este Planeta en las passes larges, yerva mora, turron de Alitante, tagarninas, orozuz, rabanos de Marchena, redomilas de tinta, quitasoles, escobus de Cormona, testigo falsos, y ratoneras." Polvareda, *Pronostico Lunatico, Deste Año, Y De Todos Los Demas Hasta El Fin Del Mundo, Para Toda La Christianidad, Parte De Turquía,Guinea, Y El Japon, Marchena, Paris, Cabo De Gata, Y La Isla De La Cucaña...*

This liminality encouraged the production of many apologetic works which attempted to delineate "good" astrology from "bad."[24] Often, these texts played up the negative aspects of the art in an attempt to salvage what they considered "true." For example, one text, *Reprobation of Judicial or Divinatory Astrology*, simultaneously called astrologers "false prophets" and recommended the science. After denouncing judicial and divinatory astrology, the anonymous author of the tract argued that "speculative astrology is a true science because it looks for the effects by *true causes*, such as eclipses and conjunctions of the planets and other similar works, which from necessity always proceed *naturally* from their causes."[25]

At the heart of the matter was the issue of free will. To post-Reformation inquisitors, the *machina mundi* of heavenly affects sounded very much like Calvinist predestination. If the stars ruled man's fate, then he had no free will; and in the contest between faiths, free will became a cornerstone in Counter Reformation ideology. Nature might create great or weak minds, strong personalities or timorous souls, but Catholic doctrine demanded that man's reason trumped any predispositions. His actions were his own. For this reason judicial astrology was limited by the Council of Trent, the 1583 Inquisitorial Index of prohibited works, and the Inquisitional ban of 1616, which lumped it in with "necromancy, geomancy, hydromancy, pyromancy, onichomancy (which is the art of reading fingernails), and chiromancy."[26]

These limitations left room for the practice of judicial astrology, but the line between accepted and illicit use was fine and contested. Words and phrases, such as "natural causes," "conjecture," or "certain and true," often proved crucial in the delineation. For example, in one expurgated Spanish text Bartolomé Balantín de la Hera y de la Varra,

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[24] See for example: Nicolás Causino, *Corte Divina, O Palacio Celestial. Primero, Y Segundo Tomo, Que Son Diez, Y Onze De La Corte Santa. Escriviola En Lengua Latina Por Nicolás Causino.. Y En La Española, El Doct Estevan De Aguilar Y Zuñiga* (Madrid: José Fernández de Buendía, 1675), also: Pedro Ciruelo, *Reprobacion De Las Supersticiones Y Hechizerias. Libro Muy Utile Y Necessario a Todos Los Buenos Christianos. El Qual Compuso Y Escrivio El Reverendo Maestro Ciruelo, Canonigo Theologo En La Santa Yglesia Cathedral De Salamanca, Y Agora De Nuevo Lo Ha Revisto Y Corregido Y Aun Le Ha Añadido Algunas Merorias. Con Sus Acotaciones Por Las Margenes.* (Sevilla: Andrés de Burgos, 1547), and Causino, *Corte Divina, O Palacio Celestial. Primero, Y Segundo Tomo, Que Son Diez, Y Onze De La Corte Santa. Escriviola En Lengua Latina Por Nicolás Causino.. Y En La Española, El Doct Estevan De Aguilar Y Zuñiga*.

[25] Anonimo, *Reprobacion De La Astrologia Judiciaria O Diviniatoria, Sacada De Toscano En Lengua Castellano* (Salamanca: Juan de Junta, 1546), 24v.

[26] AGN, *Edictos De Inquisicion, Vol. 1, F. 2-5* (1616).

published in Madrid in 1584 (by Guillermo Druy) the Inquisitorial censor crossed out the word "infallible" in Guillermo's discussion of the "great and infallible" effects of comets, such as "winds, sterility, war, pestilence, the death of princes, and the fall of kingdoms."[27] Comets might cause effects, but they were not "infallible."

These distinctions are illustrated wonderfully in an Inquisition case brought against Nicolás Alarcón, a Mercedian monk accused of judicial astrology.[28] Alarcon, unlike many of the astrologers brought in after the edict of 1616, was well versed in the theology and dogma of the church. Rather than throw himself on the mercy of the institution or claim innocence, he argued his case, trying to prove that the form of astrology he practiced was licit and acceptable. Writing to the Holy Office he claimed that "in my limited understanding I have not exceeded the limits permitted in the practice of astrology, I will give the reasons for thinking this."[29] To back up his interpretation of licit and illicit uses for astrology he referenced Saint Thomas of Aquinas´ *Summa Theologica*, Gaetano di Thiene's treatise on Aristotle *Expositio in libro de celo & mundo*, Rule 9 of the Council of Trent, and the Bulla of 1585 – texts that made up the official canon.

In his testimony, Alarcón delineated the boundaries of knowledge, according to Church doctrine, and the functioning of the Cosmos. Making a distinction between the sorts of predictions he made and those prohibited, Alarcón noted that according to Gaetano foretelling the future is prohibited only "when it is not by divine revelation or if

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[27] Despite the fact that the author warned that these predictions, etc, should be "read with caution" and under the provision that they do not touch on acts of free will. Bartolomé Balentín de la Hera y de la Varra, *Reportorio Del Mundo Particular De Las Spheras Del Cielo Y Orbes Elementales, Y De Las Significaciones, Y Tiempos Correspondientes a Su Luz, Y Movimiento: Con Los Eclipses, Y Lunario, Desde Este Año....* ed. EXPURGATED (Madrid: Guillermo Druy, 1584).

[28] Acting on tips from two of his superiors at the monastery in Guatemala, where he served as lector of theology, (a position previously held by one of the superiors' illegitimate sons) the Mexican Tribunal arrested Alarcon on February 3, 1643 and placed him in jail. His superiors accused him of making several charts for Diego Álvaro de Quiñónez Osorio president of the Audience of Guatemala, who supposedly ran someone out of town based on Alarcon's prediction of harm by a "mercurial" man. Apparently Alarcón had warned the president about a Mercurial man, "with a pale color and black beard"- which is the classic symbology for a mercurial personality, and the president had interpreted this to describe a feather-worker/scribe whom he had later run out of the territory, supposedly, on a day appointed by Alarcón to be prodigious. AGN, *Inquisicion, Vol. 370, Exp. 1, Ff. 1-195, Nicolás De Alarcón (Astrología Judiciaria),* 148v

[29] "Pero como en mi corto perecer no he excedido los limites de lo permitido en el Juicio Astrológico, diré los motivos que he tenido para pensarlo…" Ibid.

you cannot deduce the future effect from a *natural cause*." However, he argued that "if the future effect has *natural causes*, then one may prognosticate their fruition."[30] Following this argument, he cited Saint Thomas of Aquinas, who drew a distinction between *certain knowledge* and *conjectural knowledge*. Astrology, Alarcón claimed, could only provide *conjectural knowledge* of future events based on the *natural causes*. However, he argued, according to Aquinas, prognostications about the individual might be made according to his complexion, and a "good" or "bad" complexion might incline certain future behavior. Clarifying his position he noted that inclinations could be "physically good or bad" but "not morally good or bad, because the *natural* inclinations have no goodness or malice of their own." The body's inclinations had no moral implications because goodness and badness were acts of will.[31] Astrology might reach a conjectural knowledge of an individual's based on his physical or natural inclinations, but could not have certain knowledge because "man can always overcome the bad inclinations and follow the good."[32] *Vir sapiens dominabitur astris:* the wise man will dominate his stars.[33]

Likewise Juan de Segura, the royal cosmographer of Manila, came into the Holy Office after seeing a writ concerning astrology (and after several other people had informed against him) to defend his science and his innocence. Segura admitted he "had made certain charts and *juicios* according to the rules of his science, which he understood to be natural rules, without the intervention [of the devil] nor [had he] entered into a pact or *senso* with the devil." He assured the tribunal that he "had not given them any more

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[30] "Gaetano aquí: es indebida/ dice cuando ni es por revelación, ni tiene causa natural por donde se pueda colegir el efecto futuro según ciencias naturales. De suerte que si el futuro tiene causas naturales bien puede pronosticarse su futurición." Ibid.26r.

[31] Emphasis mine. "Confirmase esto con otro lugar de S Thomas el cual en la 1 pe q 14 articulo 13 dice que el que conoce el efecto en su causa solo es conocimiento conjetural y así el astrólogo diciendo tal planeta significa esta inclinación, no habla <u>certo</u> aun que no lo advierta porque es conocimiento de causa natural a efecto natural, cuales son todos las inclinaciones buenas y malas físicamente no moralmente porque en las inclinaciones naturales no hay bondad ni malicia moral pues la bondad o malicia moral consiste en actos voluntarios forme les o en actos que pudo y debió la voluntad, imperar o prohibir a la parte sensitiva." Ibid.126v.

[32] "[C]oncluye diciendo que en la naturaleza individual puede haber hábitos iniciativamente originados de buena o mala complexión, esta buena o mala complexión es el primer fundamento a que el astrólogo entiende para pronosticar las inclinaciones futuras, en las cuales estará siempre el astrólogo sino hubiera en el hombre voluntad libre puede se frenar las malas y seguir las buenas." Ibid.128r.

[33] Alarcón was eventually released after seven years, but the proceso did not specify the terms of his release.

faith than nor certainty than one could take from natural laws and conjectures taken from them, which many times are inaccurate." Segura remarked that taking these rules as infallible "is not only against the Santa Religion, but against good Philosophy," suggesting perhaps that, for him, this question might be more important. He went on to say that though he had often had success, as in the time when he predicted the Armada of the Playa Honda in 1510, he had never taken the science for infallible and always given credit to God for any good effects. And if he had thought that his science gave any offense to God he would not have used it, and would have drawn the attention of his superiors so that they might extirpate the thing which could cause harm to the faithful.[34]

The wise man was capable of overcoming his physicality and any inclinations imparted by astral or environmental influences. Man's defining feature was his ability to reason, and free will was a defining tenet of faith, but as we shall see later many thought that one's physical place in the cosmos determined one's ability to overcome fleshly appetites and bodily inclinations.

II: *Machina Mundi*

In the machine of the world, or *machina mundi,* inhabited by early modern Spaniards, place and order were essentially related. Imagined as a series of concentric circles, the machine worked from the outside in, from the *superior* to the *inferior,* the celestial to the sublunar. This upness and downess formed part of the cosmic machine, and the natural order in a hierarchy of baseness and lightness, dross and purity.

The Cosmos of the early modern period was comprised of crystalline spheres, planetary motion, and penetrating heat. The earth rested in the center of this "universal machine," held as if magnetically. Surrounding the earth was a layer of air, which in turn was enveloped by the region of fire from whence came lightning. Beyond this lay the region of ether – the fifth element, which had "almost no material substance."[35] Within the ethereal region, ten distinct orbs circles: the Moon, Mercury, Venus, the Sun, Mars, Jupiter, Saturn, the Firmament (which contained the fixed stars), and the ninth and tenth

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[34] AGN, *Inquisicion, Vol. 293, Exp. 76, F.442-445, Informacion Contra Algunas Personas Que Practiciban La Astrología* (1616).

[35] Henrico Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, ed. Consejo Nacional para la Cultura y las Artes (Mexico City: Cien de Mexico, 1991 (1606)), 46.

spheres which accounted for and "saved the appearances" of the movement of the fixed stars.

By this time Nicolaus Copernicus and others had posited the possibility of a heliocentric universe, but this idea was still considered slightly suspect. Copernicus' *De Revolutionibus Orbium Coelestium* (On the Revolutions of the Celestial Spheres) was published in 1543, the year of his death. Presented by the publisher as a method of calculation rather than a theory of universal order, the Copernican theory was received with tolerance by the Church, which used Copernicus' calculations in the Gregorian calendar reform of 1582. In Spain, his theory was not rejected out of hand and Copernicus' text never made it on to the Inquisition's Index. Historian David Goodman points out that it was even possible, according to University by-laws, to teach the heliocentric model at Salamanca if students so desired. However, Goodman notes wryly, there is no evidence that a course on Copernicanism was ever taught.[36]

While later authors such as Athanasius Kircher embraced the infinite universe as the only fitting representation of an omnipotent God, a closed, earth-centered cosmos also had important symbolic meaning, and early modern natural philosophers were slow to give it up.[37] It was supported by endless classical authors, biblical citations, and the perception of the senses.[38] This is evident in the way that José de Acosta, a Spanish Jesuit, explained the phases of the moon. Acosta noted that one could prove that the heavens surrounded the earth on all sides by witnessing the eclipse of the moon, when the earth blocked the light of the sun. However, for those who doubted this, Acosta referred to Ecclesiastes 1:5, where it reads "the sun riseth, and goeth down, and returneth to his place…"[39] The centrality of the earth could also be represented in a way that an endless universe could not. These representations abounded in illustrated *Reportorios*, such as

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[36] David C. Goodman, *Power and Penury: Government, Technology and Science in Philip Ii's Spain* (Cambridge University Press, 1988), 52.

[37] For more on Kircher see: Paula Findlen, ed, *Athanasius Kircher; the Last Man Who Knew Everything* (New York and London: Routledge, 2004), 202.

[38] However, Diego de Zúñiga, a monk and professor of Holy Scripture at Osuna, challenged the closed cosmos based on his reading of scripture in 1584. Zúñiga had been working on a commentary to the book of Job and after struggling with the verse (9:6) which states that God "shaketh the earth out of her place" he concluded that it was comprehensible only by assuming that the earth was in motion." Goodman, *Power and Penury: Government, Technology and Science in Philip Ii's Spain*, 52

[39] José de Acosta, *Natural and Moral History of the Indies*, trans. Frances López-Morillas (Duke University Press, 2002), 19, 20.

Miguel Pérez's *Teatro y descripcion del mundo y del tiempo* (1616), which came complete with movable models that provided a visual map of the heavens and the machinations of the cosmic machine. Finally, an earth centered cosmos bestowed upon man the "abbreviated world," a central position in God's creation.

The *machina mundi* provided a vision of harmony and order in an unstable world. Nature, according to this vision, was finite and knowable, like a magnificent clock that functioned perfectly according to its divine design. Nature was neither capricious nor random, but ordered and harmonious. In their work, *Wonders and the Order of Nature,* Lorraine Daston and Katherine Park surveyed constructions of "wonders" and monstrosities across time. They found that mechanical interpretations of nature and repugnance toward the marvelous tended to come to the fore in societies characterized by social unrest. As social turmoil swept across Europe, the notion of Nature as artisan and servant to God, popular during the Renaissance, lost its currency. Nature was "no longer permitted to play."[40] Daston and Park note that in societies characterized by social unrest servants could no longer be trusted, but neither could God attend to the daily functioning of the world. They argue that "automata eliminated the need for servants, in particular one who might rival the deity, and at the same time kept God's hands free of demeaning labor."[41] Mechanical visions of nature appealed to a desire for order and provided the basis for a "natural" hierarchy. Perhaps

Place was essential part of the harmony of the world machine. Carlos García, author of *La Oposicion y coniunción de los dos grandes luminares de la tierra* (1617)*,* a work dedicated to the celebration of the union of Luis XIII of France and the Infanta Ana of Spain, stressed the importance of place in the functioning of the *machina mundi*. Describing the machinations in musical terms, García noted the harmony of the "universal machine" depended on the "sonic reciprocation of all of its parts." These parts were assigned by God, "the supreme artificer, who made everything with wisdom and measure." García noted that "having given each [thing] its station and place *appropriate*

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[40] Lorraine Daston and Katherine Park, *Wonders and the Order of Nature, 1150-1750* (New York: Zone Books, 2001), 202.

[41] Ibid., 298.

to its nature," God "gave them for a center, a union, so proper and intrinsic, that if it were broken, the machine of this world would be lost."[42]

García described this union as a "chain of the world" with seven links. According to Garcia this chain began "with the first and ultimate that is God, he whom, although he is universally united with all the creatures, who live, are, and die in him, with all that attends, is particularly united with the angelic nature, as the most perfect of all creatures." According to García the angelic nature was then united to ether, "which after the Angelic nature is the most perfect for being incorruptible." The third link in the chain was the celestial nature, containing the planets, which was connected to the fourth link, the elemental nature, or region of fire and air, and finally the fifth link, the earth, which Garcia calls "the universal center of all heavy things."[43] From the earth the chain began to rise once more, starting with the sixth link, the vegetative nature, "which like all things has a dependency and succession of unity in its species, beginning with the trees, from the most fructiferous to the lowest, humble and poor weed of the field." The vegetative construed the base of the sensitive nature, which also had an order descending from the lion to the smallest lowest worm of the earth. Finally this sensitive or sentient nature was linked to the rational nature, "which for reason of the spiritual soul passes in perfection the corporeal, sensitive and vegetative natures, uniting once more with God, and closing

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[42] Emphasis mine. "Porque el supremo artífice, que todos las cosas hizo con peso sabiduría y mesura, habiendo dado a cada una dellas el puesto y lugar concerniente a su naturaleza, dio a todas juntas por centro, la union, tan propia e intrínsicamente, que si pudiese romperse, se perdería la machina universal desta mundo, cuya harmonia consiste en la reciprocion sonancia de todas sus partes." Carlos García, *La Oposicion Y Coniunción De Los Dos Grandes Luminares De La Tierra. Obra Apazible Y Curiosa En La Qual Se Trata De La Dichosa Alianza De Francia Y España* (Paris: Francios Huby, 1617), 7.

[43] "este maravillo vinculo de union, hallará facilmente, el que con particular atencion considerare los siete eslabones, de los quales se compone la cadena de este mundo: comenzando del primero y ultimo que es Dios, el qual, aunque universalmente esta unido con todas las criaturas, y ellas viven, estan y se mueren en le, con todo esso por asistencia particular esta unido con la naturaleza Angelica, como mas perfecta de todas las criaturas. La naturaleza Angelica esta unida con la etherea, por ser despues de la Angelica la mas perfecta por razon de su incoruptibilidad. La etherea esta enlazada con las elimental, en la qual consiste el diametro desta cadena siendo el mas partado del primero en quanto ala perfecion y orden de naturaleza. Del ultimo elemento que es la tierra esta aziendo el 5 eslabon, y primero de los que van bolviendo a su principio, qual es la naturaleza vegitiva. La vegitiva esta en lazada con la sensitiva. Y esta con la racional, la qual uniendose inmediatamente con Dios, cierra la cadena y circulo desta sucession." (9) "Y si echarémos los ojos de la contemplacion en el 3 eslabon, que es la naturaleza celeste, claramente veremos. (Si Tholomeo no nos engaña) el primer mobil unido con el cielo cristalin, este con la 8 sphera, la Sphera con Saturno, el qual se enlaza con Iupiter, Iupiter con Marte, Marte con el Sol, el Sol con Venus, Venus con Mercurio, y Mercurio con la Luna, de cuya concava superficie toma su principio el 4 eslabon, que es la naturaleza elemantal, enlazandose con la conuexa del fuego, y della la de Ayre, aquien va siguiendo el elemento del Agua, hasta unirse con el centro universal de todas las cosas graves, que es la tierra. Ibid., 9.

the circle."[44] The great chain linked God to the earth through a descending and ascending order of being.

The earth was the furthest from the first mover, because it was the heaviest, and most ignoble.[45] This arrangement is well explained by Oliva Sabuco de Nantes y Barrera, whose *Nueva Filosofia de la Naturaleza del Hombre* (1587) compared this world to a round egg with three clear membranes and eleven shells.[46] The clear membranes corresponded to air, fire, and ether, while ten of the shells corresponded to the ten heavenly spheres, and the eleventh to heaven. Sabuco noted that the order of the cosmos was related to "lightness" and "heaviness," lighter things rising to the heavens "to which they correspond," and heavier things falling toward the earth."[47] At the center of the earth, "the place most contrary to light things," God put hell, while his heavenly court occupied the eleventh sphere of heaven, "[the spirit's] *natural place*."[48] God's order was represented according to *upness* and *downness* in the physical world.

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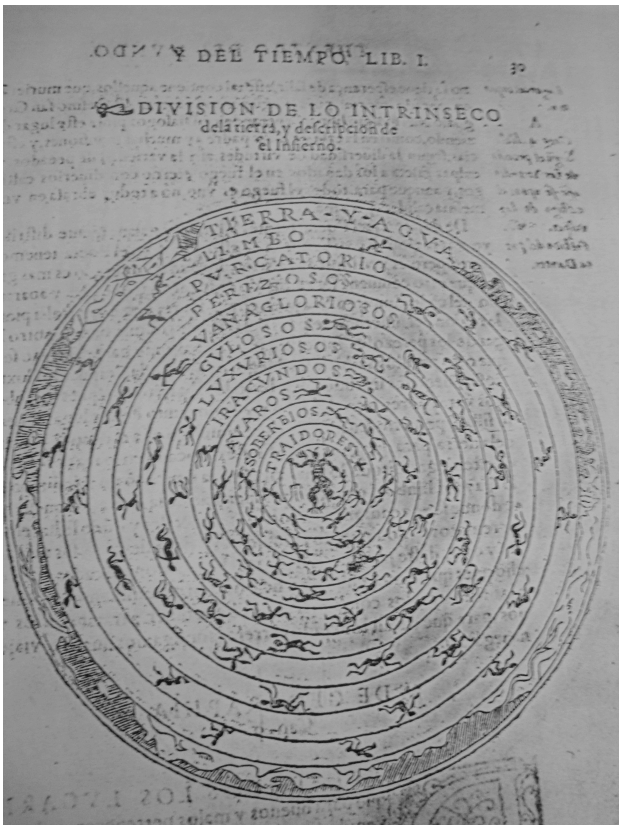
[44] De la tierra comienza a subir el 5 eslabon, esto es la naturaleza vegitiva, la qual tiene como las demas, su dependencia y sucesion unida con todas sus species; comenzando entre los arboles, del mas fructifero, asta la mas baja, humilde, y pobre yervezuela del campo. Esta naturaleza vegetativa es la basa fundamento de la sensitiva, pues es del todo imposible moverse y sentir sin ella. La qual de la fuerte que la primera, tiene sus especies y grados de sucession y dependencia, enlazan dose lo mas noble y perfecto della qual es el Leon, con el mas baxo y insimo gusanillo de la tierra. Finalmente desta natruraleza sensitiva se encadena la racional, la qual siendo por razon de alma spiritual, pasa en perfecion la naturaleza corporea, vegetativa, y sensitiva, quedandose unida con Dios. De suerte, que no solament la sobredicha union se halla en esta machina universal, pero tambien en cada una de sus partes, siendo imposible, aver alguna que no este enlazada y unida con las demas, por algun atributo que convenga indiferentemente a todas. Ibid., 15. This construction- vegetative, sensitive, rational was very common. In Juan de Huarte de San Juan's treatise is serves as the basis for the construction of his work- he divided the natural world into these three parts- which he then equated with the governance of the kingdom- moving from nature to art or techne, and finally to law, or the king "who is like the brain of the kingdom." Huarte de San Juan, *Examen De Ingenios*, 45.

[45] Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies*, 259.

[46] This work, attributed upon publication to Doña Oliva, is thought to have actually been written by her father Miguel Sabuco, who claimed the work as his own in his will. Oliva Sabuco de Nantes y Barrera, *Nueva Filosofia De La Naturaleza Del Hombre (1587)*, Biblioteca De Visionarios Heterodoxos Y Marginados (Madrid: Editora Nacional, 1981), 4.

[47] At least one copy of this work made it to New Spain, as an example is listed in the contents of the library of Melchor de Soto. AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto*.

[48] Emphasis mine. "Pues imagina un huevo de avestruz grande, redondo, con tres claras, y once cáscaras. En este huevo la yema pequeña redonda es la tierra, y la primera clara pequeña, que la cerca es el agua (que toda la cercaba). Y la segunda clara mayor es el aire. Y la tercera, muy más mayor, es el fuego. La primera cáscara es el primer cielo. Y la segunda es el segundo cielo, etc. Yestos cuatro elementos son la materia de todas las cosas de este mundo: y de esta materia toman sus varias formas todos los mixtos que tienen cuerpo, y toman su forma las que tienen la parte vegetativa, como plantas....Y esto pasa aquí en toda la redondez de la tierra, que de cualquier lugar de ella abajan las cosas pesadas derechas a aquel centro, o



Vision of the center of the earth
From Miguel Perez's translation of *Teatro y descipción del Mundo y del tiempo* (1616)[49]

The "natural" *upness* and *downess* of the earth-centered cosmos provided a *place* for everything, and an explanation of gravity. Light things sought out lightness, while

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nudo, y las livianas van hacia la parte de este mismo cielo, que le corresponde, y está en par de su cabeza del que en aquella parte hiciere lumbre, o saliere vapor: van al centro las pesadas, y al cielo las livianas derechas, como van los rayos de la rueda de carro, que van derechos en cada parte al centro de cubo, y van derechos en cada parte a la sobrecama. En este centro, que es el lugar más apartodo de los cielos, puso Dios el infierno, que es el lugar más contrario a las cosas livianas, e incorpóreas, que como el ánima sea espíritu sin cuerpo, ni pesadumbre, tiene la agilidad, y es más liviana que el aire, ni fuego, ni primer cielo, ni todos diez. Y así con su dote natural de agilidad, era su lugar en el más alto undécimo cielo, donde está la corte celestial: éste era su lugar natural, a donde su agilidad la llevaba, y donde salió, sus pecados e ingnorancias la llevaron a lugar contrario, y más desviado del suyo, como gran destierro. Este destierro (y sus tormentos) es eterno, y dura para siempre, como la eternidad de Dios." Sabuco de Nantes y Barrera, *Nueva Filosofia De La Naturaleza Del Hombre (1587),* 257.

[49] Pérez, *Theatro Y Descripcion Del Mundo Y Del Tiempo. En El Qual No Sólo Se Describen Sus Partes Y Se Dá Regla En El Medirlas, Mas Con Ingeniosa Demostracion Y Figuras Se Verá Lo Mas Importante De La Astrologia, Theórica De Plantas, Con El Conocimiento De La Esphera, La Causa Del Crecer Y Menguar De La Mar, En Qué Lugar, Hora Y Tiempo, Etc. Compusto Por Juan Pablo Y Gallucio Salonense. Traducido Del Latin En Romance Por Miguel Pérez, Mathemático Y Astrólogo, Capellan Del Rey Nuestro Señor En Su Real Capilla De Granada. Y Añadido Por El Mismo Muchas Cosas Al Propósito De Esta Ciencia, Que Faltaban En El Latin.*

heavy things were drawn to heaviness. The rays of the heavens, like spokes in a wheel, penetrated and shaped each thing "appropriate to its nature." Man's place in this construction reflected his possession of reason, which allowed him to override his physicality, but, as we shall see, this ability was not equal, and some men were thought to possess a greater capacity to overcome their bodies than others.

The Body

The body in early modern thought occupied a place between the metaphysical and material worlds. Linking man to God, through the faculty of reason, which he shared with the angels, the body also connected man to the rest of the material world. Imagined as "the abbreviated world" or a microcosm, man's body was both the end point of heavenly influence and a miniature of the larger world. Sabuco argued that man's body was like the "big world" because, like the moon, it was waxing and waning in sickness and health, but also because just as the primary mover ruled the cosmic machine, the will ruled the body. [50]

According to the Hippocratic theory of *pneuma*, the body contained three *pneuma* or spirits: the animal, the vital, and the natural, plus the rational spirit. These spirits connected the organic biological parts to the psychic emotional moral parts. The animal resided in the brain and traveled along the nerves, carrying sensory information. The rational spirit also resided in the brain, governing the operation of the will. The vital resided in the heart and lungs, distributing the "vital spirits" by means of arteries. According to Juan Huarte de San Juan, the vital spirit was essential for sovereignty, as you cannot conceive of a good king or military man without this "irascible" faculty.[51] The natural spirit resided in the liver transmitting nutrition and growth though the veins.

The material body integrated the four elements in composition and tendencies: air, water, fire, and earth. These elements corresponded to the four humors: blood, phlegm, cholera, and black bile. These, in turn, had corresponding organs, seasons

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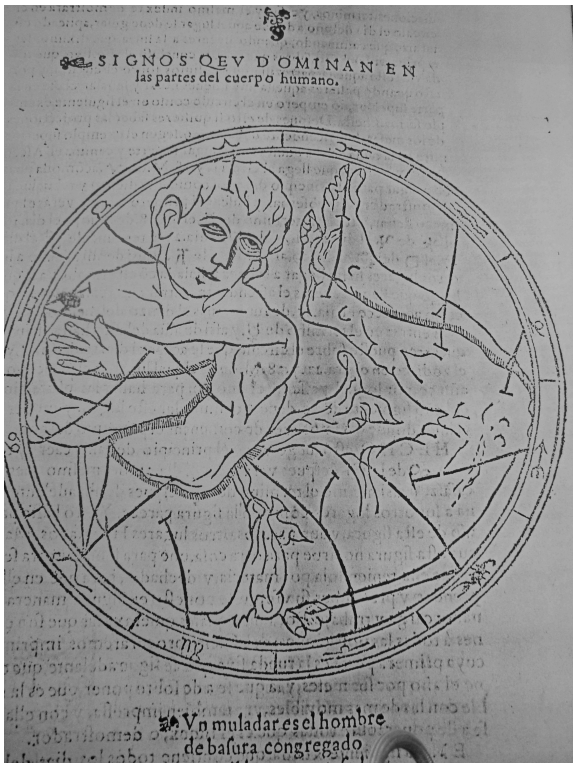
[50] Sabuco de Nantes y Barrera, *Nueva Filosofia De La Naturaleza Del Hombre (1587),* 211.

[51] Huarte de San Juan, *Examen De Ingenios*, 39. The popularity of this work is evident in the fact that no less than eight copies were listed in the inventory of Melchor Pérez de Soto. AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto*.

and "complexions" that might be imagined as personalities. Each humor was distinguished based on its characteristics, for example, hotness or coldness, dryness or wetness, which was the basis for Hippo-Galenic medicine. Blood was thought to be warm and moist, phlegm cold and wet, cholera hot and dry, and black bile cold and dry. In the ninth century, Johannitius (Honein ibn Ishak) the great Arab physician who translated the works of Galen into Arabic, applied the terms choleric, sanguineous, melancholic, and phlegmatic to the types of men produced by these humors, thereby linking personality and physical composition.[52]



"Signos que Dominan en las partes del cuerpo humano"

From: Miguel Perez's translation of *Teatro y Descripcion del Mundo y del Tiempo* (1616)[53]

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[52] Elizabeth C. Evans, "Physiognomics in the Ancient World," *American Philosophical Society* 59, no. New Series (1969), 18.

[53] Pérez, *Theatro Y Descripcion Del Mundo Y Del Tiempo. En El Qual No Sólo Se Describen Sus Partes Y Se Dá Regla En El Medirlas, Mas Con Ingeniosa Demostracion Y Figuras Se Verá Lo Mas Importante De La Astrologia, Theórica De Plantas, Con El Conocimiento De La Esphera, La Causa Del Crecer Y Menguar De La Mar, En Qué Lugar, Hora Y Tiempo, Etc. Compusto Por Juan Pablo Y Gallucio Salonense. Traducido Del Latin En Romance Por Miguel Pérez, Mathemático Y Astrólogo, Capellan Del Rey Nuestro Señor En Su Real Capilla De Granada. Y Añadido Por El Mismo Muchas Cosas Al Propósito De Esta Ciencia, Que Faltaban En El Latin.*

Table 1: Seasons, Humors and Tempers

	Blood	**Yellow Bile**	**Black Bile**	**Phlegm**
Season	Spring	Summer	Autumn	Winter
Element	Air	Fire	Earth	Water
Organ	Liver	Gall Bladder	Spleen	Brain and lungs
Qualities	Warm and moist	Warm and dry	Cold and dry	Cold and moist
Temperament	Sanguine	Choleric	Melancholic	Phlegmatic
Planet	Sun	Mars	Saturn	Venus
Age	Adolescence	Youth	Old age	Decrepitude
Direction	South	East	North	West
Color	Red	Yellow	Black	White

Illness was understood as an imbalance of humors in the body, and remedies usually attempted to correct this. Diuretics or purges and bloodletting were the most common remedies used by doctors and other practitioners. These techniques rid the body of the offending humors, which were siphoned off with the blood, vomit and excrement they produced. However, Hippo-Galenic medicine was primarily based on the idea of *natura medica*, or *medicatrix naturae*, that nature provided the tools to heal directly and the body knew how to heal itself. The physician's job was to prognosticate and make sure the patient was well cared for.

The balance (or imbalance) of the humors in the body also determined the intelligence and personality of the individual, and thus his capacity to overcome his own corporal leanings. According to Hippo-Galenic thought, humidity benefited the memory because it facilitated imprinting (think wax), while dryness increased understanding. Thus the composition of the body encouraged distinct capacities. Juan Huarte de San Juan summarized the influence of each humor on the rational spirit. Citing Galen, he noted that "prudence and ingenuity of the *rational spirit* are born of cholera, being whole

and constant comes from the melancholic humor, being silly and simple the blood, while from the phlegm, the rational spirit does not gain a thing except sleep.[54]

These designations created stereotypes that described the different "complexions." This can be seen in Huarte's description of the choleric (hot and dry) and the phlegmatic (wet and cold): "The choleric, depending on the natural capacities, wants cold and humid foodstuffs, and the phlegmatic, hot and dry. The choleric, depending on the generative power, loses himself over women, the phlegmatic abhors them. The choleric, according to the ire, is vainglorious, adores honor, dominion, and command and being superior to everyone, and the phlegmatic esteems more to be satiated with sleep than all the lordships in the world."[55]

Heat was the cause of a lot sinning but it also increased man's ability to impose his will over his body. Practices, such as sleeping on the floor, going about poorly dressed, and fasting, limited the heat in the body so that man could overcome his natural inclinations. Meditating and praying were also thought to bring the heat into the head, thereby leaving the other parts of the body cold.[56]

This balance was understood as both innate and environmental. Individuals might have a predominant "complexion," but their bodies changed due to age or a change in fortune. For example Huarte believed that sadness ate away the flesh and the humidity of the brain causing it to be sharp and concise, while food and happiness caused it to humidify making the brain slower.[57] Blas Alvarez Miraval**,** author of *La conservacion de la salud del cuerpo y del alma*….(1597) agreed, arguing that rich foods made men more prone to vice while a lack of food made them smarter. According to Alvarez poverty and

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[54] "La prudencia y Buena maña del anima racional nace de la cólera; ser entero el hombre y constante proviene del humor melancólico; ser bobo y simple, de la sangre; de la flema, para ninguna cosa se aprovecha el ánima racional, más que para dormir." Huarte de San Juan, *Examen De Ingenios*, 335.

[55] "Lo cual se ve claramente discurriendo por todas las facultades que gobiernan al hombre destemplado. El que es colérico, según las potencias naturales, desea alimentos fríos y húmidos; y el flemático, calientes y secos. El colérico, según la potencia generativa, se pierde por mujeres; y el flemático las aborrece. El colérico, según la irascible, adora en la honra, en la vanagloria, imperio y mando, y ser a todos superior; y el flemático estima más hartarse de dormir que todos los señoríos del mundo." Ibid., 172.

[56] Ibid., 260.

[57] Ibid., 335.

necessity bred subtle and ingenious minds, and abundance created slow witted men given to carnal pleasures.[58]

During the life of a body, it passed through stages during which it was fundamentally altered. This process wrought corresponding changes on the intellect and personality of the individual and his capacity to control his body. The first stage, childhood, lasted until fourteen and was characterized primarily by humidity, which allowed the brain to be easily imprinted-hence the ease with which children learned languages. In adolescence (14 to 25) the body became temperate, and then hot and dry during youth (25 to 35) (and for this reason most likely to commit the worst sins). This hot and dry period of life was the most active, marked by prurience, irascibility, and other inclinations of the flesh.[59] At thirty-five, man reached what Huarte termed "the perfect age," and others called "virile," when the body became temperate and dry, making man more prudent and likely to mend his ways.[60] This age lasted until forty-five when man reached the final stage, old age, in which the body became dry and cold.[61]

Gender

Early modern natural philosophers imagined women as imperfect men. For example Andrés de León argued that the generation of women was almost an aberration, as nature tended toward that which was perfect: the generation of men.[62] Blas Alvarez Miraval

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[58] Blas Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados...* (Medina del Campo: Santiago del Canto, 1597), 306-309.

[59] Juan de Figueroa, whose *Opusculo de Astrologia en Medicina,* was published in Lima in 1660 had a slightly different arrangement. He broke the life cycle into seven ages associating each with a planet and temperament. Infancy: birth to 4yrs, Moon, humid; puerecence: 5-14, Mercury, hot, first learning; adolescence: 14- 22, Venus (which traditionally provoked sexual acts), youth: 22-41, Sun, begins to be inclined toward gravity and moderation, Virile: 41- 56, Mars, begins the great project of life; old age: 56-68, Jupiter, honor, virtue, knowledge; Decrepitude: 68-death, Saturn, weakness. Juan de Figueroa, *Opusculo De Astrologia En Medicina, Y De Los Términos Y Partes De La Astronomía Necessarias Para El Uso De Ella* (Lima: 1660), 153-154.

[60] Jerónimo Cortés agrees that this age is cold and dry, but extends its duration until age 49, at which time one reached decrepitude. Jerónimo Cortés, *Lunario Nuevo, Perpetuo Y General Y Pronostico De Los Tiempos, Universal..Todo Revisto Y Añadido En Esta Tercera Imporession Por El Mismo Autor* (Madrid: Pedro Madrigal, 1598),7.

[61] Huarte de San Juan, *Examen De Ingenios*, 271.

[62] Andrés de León, *Libro Primero, De Annathomia. Recopilaciones, Y Examen General De Evacuaciones, Annathomia Y Compostura Del Cuerpo Humano, Differencias Y Virtudes Del Anima,*

called women *veron manco,* or "one-handed man," implying that women were like maimed men. He argued that nature's desire for perfection was the reason that it was much more common for women to "become" men than for men to become women, "because nature tends to move from least to most perfect."[63] Alvarez noted that women also had testicles and "virile members" just like men, "only hidden."[64] Women were hidden men whose generation almost went against the rules of nature. The determination of gender of children (literally engendering) was thought to reflect both the "virility" of the man's seed and the temperature of the womb – colder wombs creating female offspring and hotter wombs creating male. Likewise "womanized men" and "*machoras*," or macho women, were believed to be the result of excess heat or cold in the womb.[65]

Because of their generative power, women's bodies (and the earth) were frequently imagined as a matrix – material awaiting shape. Early modern philosophy proposed that women's bodies had an internal heat, just like those of men, but this heat was dissipated in menstruation and the generation of babies leaving them cold and wet. Though babies were nurtured by heat, the uterus was imagined to be cold, humid, and imprintable. Aristotelians and Neoplatonists differed in the way that they imagined this relationship and the relationship between matter and form. Neoplatonists thought that matter was lifeless, while Aristotelians imagined matter as potentiality, actively desiring form "as the

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Diffiniciones De Medicina, Con Muchas Cosas Curiosas Y Provechosas De Philosophia, Y Astrologia. Repartidos En Quatro Libros, En Los Quales Ultimamente Se Rematan Dos Tratados De Avisos Para Sangrar, Y Purgar: En Todo Respectando Los Signos Y Planetas. (Baeza: Juan Bautista de Montoya, 1590), 29.

[63] Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados..,* 285-89.

[64] "Asi de advirtir, que las mugeres también tienen testiculos y miembros viril, aunque ocultos y escondidos, y redondos como los de los hombres…" Ibid.

[65] Leon imagined that these "machoras" as frequently unable to reproduce. Y por contrario advirtiendo que Naturaleza siempre va inclinada á lo mejor, que es engendrar varones, y succeder hijas es por flaqueza de los semenes de los varones, o demasiada frialdad de las hembras, porque estas suelen ser causa muchas vezes, como se a visto en nuestro tiempo despues de engendrado un varon antes que nazca como despues de nacido trocarse en hembra: y por el contrario por el demasiado calor. Y muy claro los tales lo manifiestan y muestran por sus actiones, en ser los varones amugerados en hechos y palabras: y aun son los que caen en el peccado nephando por la mayor parte. Y las mugeres varoniles y machorras, y muchas dellas in capazes para parir. León, *Libro Primero, De Annathomia. Recopilaciones, Y Examen General De Evacuaciones, Annathomia Y Compostura Del Cuerpo Humano, Differencias Y Virtudes Del Anima, Diffiniciones De Medicina, Con Muchas Cosas Curiosas Y Provechosas De Philosophia, Y Astrologia. Repartidos En Quatro Libros, En Los Quales Ultimamente Se Rematan Dos Tratados De Avisos Para Sangrar, Y Purgar: En Todo Respectando Los Signos Y Planetas,* 29.

female desires the male and the ugly the beautiful."[66] Females like matter were imagined as either passive or actively desiring form so that they might fulfill their *telos*. In part this materiality was imagined as a lack of intelligence, the capacity to give form.

The perceived mental incapacity of women is well illustrated in Fray Martín de Casteñega's treatment of women's roles in the "ministry of the devil." Casteñega noted that women were found more often than men in the ministry of the devil for several reasons. First, because they were denied administration of Christ's sacraments, the devil gave them administration of his "excrements." Second, because "as their nature denied" them knowledge they were more desirous than men of "occult knowledge." They were also more easily "deceived" by the devil (as is proved by the story of Adam and Eve); more given to talking amongst themselves, teaching each other these arts; and more "vengeful" and given to ire. Finally, Casteñega differentiated between the knowledge of men, which is based on some art or science (and for this reason only men are called *nigromantico*), and women, which is based only on familiarity with the devil. Casteñega noted that poor and old women became witches more than young or rich women because "as men do not pay them any attention" they resort to the devil to satisfy their desires and appetites. Women, having less capacity to knowledge, needed men to control their bodies, and lacking that, were susceptible to malevolent influences and occult knowledge.[67]

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[66] As quoted in Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies*, 243.

[67] Estos ministros al demonio cosagrados y dedicados mas hay mujeres que hombres. Lo primero porque chirsto las aparto de la administración de sus savrementos por esto el demonio les da esta autoridad mas a ellas que a ellos en la administración de sus execrementos. Lo segundo porque mas ligeramente son engañadas del demonio como parece por la primera que fue engalada a quien el demonio primero tuvo recurso que al varón. Lo tercero porque son mas curiosas en saber y escudriñarlas cosas ocultas y desean ser singulares en el saber, como su naturaleza se los niegue. Lo cuarto porque son mas parleras que los hombres y no guardan tanto secreto y así se enseñan unas a otras lo que no hacen tanto los hombres. Lo quinto porque son mas sujetas ala ira y mas vengativas y como tienen menos fuerzas para se vengar de algunas personas contra quien tienen enojo procuran y piden venganza y favor del demonio. Lo resto por que los hechizos que los hombres hacen atribuyen se a algún ciencia o arte y llama los el vulgo nigromantitos y no los llaman brujos: como eran los sabios maléficos de Jarao que los dotores los llaman Magos los cuales con sus encantaciones hacia parecer y nacer por ministerio diabólico diversas serpientes en presencia del rey contra haciendo a los milagros verdaderos que hacia dios por Moysen. E como era Balsam profeta nigromantito. Mas las mujeres como no tienen excusa por algún arte o ciencia nunca las llaman nigromantitas (aun que Juan de Mena dijo por mas lindeza por Medea la nigromantesa) salvo megas brujas hechiceras morguitas o adivinas como aquella pitonisa a quien tuvo recurso Saul para saber si seria vencido o vencedor en la batalla que esperaba contra los Filisteos mas en la verdad así son brujos los que el vulgo llama nigromantitos como las mujeres simples al demonio consagradas por sus familiares porque el

Women had less capacity to overcome their physical selves, and this incapacity was itself physical. This is evident in Blas Alvarez Miraval's discussion of generation and virtue. Alvarez Miraval argued that all people were conditioned by their generation and that all children, but especially male children, resembled the mind of their father during conception. Virtuous men had virtuous children. However, he contended that it was possible for male children to rise above their parentage by virtue of will. Female children, lacking this capacity, tended to follow the condition of their mother.[68]

Generation

Until the mid-eighteenth century, inheritance was not the dominant explanation for generation. Bodies were engendered not reproduced, and nature and nurture were not yet seen as oppositions.[69] Bodies and minds, like seashells, were understood as unique creations of particular astral and environmental effects, and place decided man's physical and mental capacity, acting as a "father" in the generation of man.[70] According to Aristotelian thought man's seed provided the movement or "active," while the woman's

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demonio no acude ni responde a las invocaciones y conjuros del nigromantito por alguna virtud o eficacia que su arte o ciencia tenga sobre el demonio: porque no hay tal ciencia ni arte salvo por el pacto y familiaridad que con el tiene y así no hay otra diferencia entre los ministerios del demonio sino las diferenciadas maneras que el demonio tiene para engañar y contraer su familiaridad con los hombres: de manera que aquel será mayor nigromantito que mas familiaridad tuviere con el demonio y mas siguiere y cumpliere su voluntad y no por saber mas artes o letras como es en las ciencias verdaderas. E mas sobre las mujeres viejas y pobres que de las mocas y ricas porque como después de viejas los hombres no hacen caso de ellas tienen recurso al demonio que cumple sus apetitos en especial si cuando mocas fueron inclinadas y dadas al vicio de la carne, a estas semejantes engaña el demonio cuando viejas prometiéndoles de cumplir sus apetitos y cumpliéndolos por obra como adelante se dirá. E mas hay de las pobres y necesitadas porque como en los otros vicios la pobreza es muchas veces ocasión de muchos males en las personas que no la toman de voluntad o en paciencia: por esto pensando que el demonio suplica sus necesidades o responderá a sus deseos y apetitos mas son engañadas las viejas y pobres que no las mocas y las que tienen bien lo que han menester por que les da a entender que no les faltara nada si a el siguen." Fr. Martín de Castañega, *Tratado Muy Sotil Y Bien Fundado De Las Supersticiones, Y Hechizerias, Y Vanos Conjuros, Y Abusiones: Y Otros Cosas Al Caso Tocantes, Y De La Possibilidad Y Remedio Dellas* (Logroño: Miguel de Eguía, 1BN 1529).

[68] Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados..,* 143.

[69] Müller-Wille, ed, *Heredity Produced: At the Crossroads of Biology, Politics, and Culture, 1500-1870*, 3

[70] Porphyry of Tyre, the third century Neoplatonist from Tyre expressed this relationship to place as akin to that of the father and child. "Thus we say that Orestes had his genus from Tantalus, and Tantalus from Hercules, and, on the other hand, that Pindar is a Theban by *genus* but Plato an Athenian; and therefore one's native country (patria) is the principle of generation for each man, just as a father." Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies*, 250.

menses provided the "passive" that is acted on, the material that receives form.[71] Place acted in the same way, shaping the individual according a variety of factors.

Andrés de León's thinking about generation in his work *Libro primero, de Annathomia* (1590) provides an excellent example of the variety of theories available to sixteenth-century natural philosophers regarding sex, gender, and reproduction. Speaking about the importance of the testicles to the body, León cited Galen noting that blood was drawn from the body and converted into semen. Testicles, he argued, were essential and without them men could not be robust or strong, but weak and scrawny, "as are eunuchs… who don't even have beards," where beards functioned as essential indicators of masculinity. Describing the functioning of the testes he noted that some women had "masculine or virile semen," while some men had "feminine" semen. According to León, the children of such a union might appear more like the mother because the semen of the woman "overpushed" that of the man.

It is not entirely clear whether León imagined resemblance in terms of physiological inheritance or in terms of gender, as he seems to mix these two concepts in the same discussion. For example, León related that some philosophers attributed the variety of faces to the variety of foods, while others to the faculty of imagination during coitus or astral and environmental effects. Still others, he said, believed that females were engendered if the semen came from the left testicle, males if from the right, but he believed that it had to do with the domination of the semen, or "overpushing." However, he concluded that there was no doubt that the sun helped in the generation of sons while the moon engendered females.[72]

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[71] Ibid., 250.

[72] "Galen dize que es miembro tan principal que sin el el hombre no seria robusto ni fuerte, antes debil y flaco: como se muestra y parece en los eunuchos, que en romance laman capones, los quales ni aun tienem barbas. Que sea la causa desto no la da Galeno ni otro grave autor, solo dizen que porque son partes tan principales: nutrense y se sustentan los testes de semen desta manera, que con su facultad atractriz atraen sangre, la qual era borandola la convierten en substancia blanca y de su propio color. Y lo que de su nutricion sobra es lo que sale en los ayuntamientos y coitos de varones y hembras. Y assi de notar que no es todos los hombres se haze el semen de una manera tan bueno ni perfecto: porque en el hombre robusto se haze mejor y de mas buen color, y en el debil y flaco, delgado, tenue y de poca substancia. Y peor en las mugeres por la mayor parte, aunque también ay algunas cuyo semen esviril y masculino, y semen de algunos hombres femenil: por cuya causa se engendran hijos que parecen a las madres, por sobrepujarles el semen al del hombre. Y por contrario advirtiendo que Naturaleza siempre va inclinada á lo mejor, que es engendrar varones, y succeder hijas es por flaqueza de los semenes de los varones, o demasiada frialdad de las hembras, porque estas suelen ser causa muchas vezes, como se a visto en nuestro tiempo despues de

Resemblance might denote parentage, but not necessarily. For example, Alvarez noted that when a child was born that did not resemble either of its parents it might be a result of the mother's imagination during pregnancy.[73] This opinion very likely referenced two famous examples cited by Ambrose Paré a sixteenth century French surgeon whose 1579 treatise *On Monsters and Marvels* focused on the creative side of nature. One is a reference to St. John of Damascene, who attributed the furriness of a female child to her mother's fixation on a portrait of St. John the Baptist in his furs which hung at the foot of her bed. The other is a case from Hippocrates, who settled a paternity dispute by claiming that the black skin of the princess's child resulted from meditation on a picture of a Moor at the foot of her bed, and not infidelity.[74] The moral of the tale is apparently be careful what you hang at the foot of your bed.

The act of engendering was open to innumerable influences which accounted for the great variation among individuals and regional similarities. As Huarte noted, not only was man affected by the "heat, cold, humidity, or dryness of the region" in which he

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engendrado un varon antes que nazca como despues de nacido trocarse en hembra: y por el contrario por el demasiado calor. Y muy claro los tales lo manifiestan y muestran por sus actiones, en ser los varones amugerados en hechos y palabras: y aun son los que caen en el peccado nephando por la mayor parte. Y las mugeres varoniles y machorras, y muchas dellas in capazes para parir. Mas al fin fue gran providencia de Dios, y naturaleza, que vuiera varones y hembras, porque de otra fuerte naturaleza cessara. Por lo qual dize muy bien el philosopho: *De 9 & natura nihil agunt fruitra*. Que Dios y naturaleza no hazen cosa en vano. Y assi se el semen del varon y hembra fueren calidos, ó frigidos por excesso, no engendraran: si fueren templados si. Y si el uno fuere calido y el otro frio, haran un medio. Y este es la causa que por ser el Cavallo y la Yegua tan calido y el garañon y su hembra tan frios. Muchos modernos aplican la variedad de los rostros á la variedad de los manjares: Otros Philosophos que es la causa de imaginacion de aquel acto, estrellas y signos que en la genitura predominan: otros que con el compañado derecho se engendran varones, y con el izquierdo hembras: lo mas cierto es como avemos dicho sobre pujar el semen de varon. Con lo qual aquella tercera forma que se haze de las dos simientes, sale a su semejante, de quien el mas se sobrepuja: y por el contrario sobrepujando el de la muger. Y tan bien ayuda á la generacion de los varones la presencia del Sol, y á las hembras la de la Luna: De manera que la falta de Luna, y presencia del Sol, que sera en verano en conjuncion, ayuda al genero masculino: y falta de Sol y presencia de Luna, que es en invierno, y en plenilunio ayuda al genero feminino. ....Asi de advirtir, que las mugeres también tienen testiculos y miembros viril, aunque ocultos y escondidos, y redondos como los de los hombres…" León, *Libro Primero, De Annathomia. Recopilaciones, Y Examen General De Evacuaciones, Annathomia Y Compostura Del Cuerpo Humano, Differencias Y Virtudes Del Anima, Diffiniciones De Medicina, Con Muchas Cosas Curiosas Y Provechosas De Philosophia, Y Astrologia. Repartidos En Quatro Libros, En Los Quales Ultimamente Se Rematan Dos Tratados De Avisos Para Sangrar, Y Purgar: En Todo Respectando Los Signos Y Planetas,* 29.

[73] Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados..,* 143.

[74] Ambroise Paré, *On Monsters and Marvels* ed. Pallister Janis L. (Chicago: University of Chicago Press, 1982), 39.

inhabited, but also the quality of the food he ate, the water he drank, and the air he breathed.[75] According to Huarte, these conditions created the various *nation*s of men, explaining why some are "idiots and others wise, some valiant and others cowards."[76] Place and all the factors associated with it, including diet, combined to shape man's nature.

Huarte described the process of generation, noting that the quality (wetness or dryness, hotness or coldness) of the seed conditioned the physiology of man: "Because, if [the seed] is cold and humid, more than necessary, Hippocrates says that men come out eunuchs or hermaphrodites; and if it is very hot and dry, Aristotle says that it makes men with prominent lips, flat noses and knock knees, as are those of Ethiopia; and if it is humid, says the same Galen, large and empty [men] will come out, and being dry, they are born small of body. All of which is great ugliness in the human species, and of such works there is no need to neither praise nature nor have her for wise. And if God was the author, he would let none of these qualities interfere."[77] Huarte equated anomalies such as hermaphroditism and dwarfism with the physical traits associated with "Ethiopians," lumping them together as "ugly" and almost unnatural.

In general, Spaniards imagined physical and psychological traits according to place, putting themselves at the top of a hierarchy of places. This tendency went back to the Greeks and Romans who imagined their domination as a byproduct of environmental effect. For example, Hippocrates (*ca*. 460 BC – *ca.* 370 BC), the famous Greek physician and one of the most revered authorities in early modern medicine, devoted an entire treatise to the relationship between body and place. His *On Airs, Waters, and Places* attempted to describe the various climes and the way they affected the bodies of

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[75] As an example of the books popularity in New Spain, the library of Melchor Pérez de Soto contained no less than eight copies of *Examen de ingenios.* AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto*.

[76] "Escribió Galeno un libro (*Quod animi mores corporis temeraturam insequantur)* probando que las costumbres del ánima sequen el temperamento del cuerpo donde está, y que, por razón del calor, frialdad, humedad y sequedad de la región que habitan los hombres, de los manjares que comen y de las aguas que beben y del aire que respiran, unos son necios y otros sabios; unos, valientes y otros, cobardes; unos crueles y otros, misericordiosos…Y, para probar esto, trae muchos lugares de Hipócrates, Platón y Aristóteles; los cuales afirmaron que la diferencia de las naciones, así en la compostura del cuerpo, como en las condiciones del ánima, nace de la variedad de este temperamento." Huarte de San Juan, *Examen De Ingenios*, 51.

[77] Color is absent as a characteristic of Ethiopians. Ibid., 295.

those who lived there. Describing Asia as a land of wealth, he argued that "Asia differs very widely from Europe in the nature of its inhabitants and all its vegetation. Whereas everything in Asia grows to far greater beauty and size, and one region is less wild than the other, the character of its inhabitants is milder and gentle." He thought this gentleness and abundance was related to the lack of seasonal variation, whereas areas where "the land is bare, waterless, rough, oppressed by the winter's storms and burnt by the sun, there you will see men who are hard, lean, well articulated, well braced and hairy. Such natures will be found energetic, vigilant, stubborn, and independent in character and temper, wild rather than tame, of more than average sharpness and intelligence in the arts, and in war of more than average courage."[78] Hot dry places created men who were hairy, lean, energetic, and untamed – courageous men who were good at war.

These ideas varied in detail, often contradicting each other. For example, unlike Hippocrates, Vitruvius, the famous Roman architect, argued that it was precisely the temperateness of Rome's climate, "not being subject to sharp variations," that made Romans "excel in strength and vigor." He claimed that the coldness and moisture made those of north large and fair, with straight red hair and blue eyes, while those near the equator were short and dark-complexioned, with curly hair, black eyes, weak legs, and a deficiency of blood. He believed that this lack of blood made them timid in battle but able to endure excessive heat without fear; whereas the northerners were fearful of contracting fevers but because of the abundance of blood were undaunted in battle. Vitruvius argued that the clarity of the atmosphere and intense heat in the south made people "reedier and quicker in expedients," and that the heavy atmosphere and cold moist air of the north made men duller in intellect. Finally, he contended that "[t]he Roman people, being placed by nature in the center of Italy, and thus in the middle of the earth, not subject to sharp variations of climate, excel in strength of body and mental vigor. And for this reason they have been able to repress the inroads of the barbarians by astuteness, and the strategies of the southern nations they have overcome by strength."[79]

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[78] As cited in: Evans, "Physiognomics in the Ancient World."19.
[79] As cited in: Ibid., 20.

This was echoed by Spanish authors, who saw their nation in the shadows of the Greeks and Romans. For example, Alvarez contended that when Aristotle argued that men born in hot places led longer lives, we should understand "temperate hot," such as the third climate (Egypt) which, unlike the second climate (Aswan), which is excessively hot and consumes the internal heat and humidity of the body.[80] Alvarez demonstrated the superiority of "temperate" peoples by arguing that they were the more beautiful; people who were ugly on the outside, were also ugly on the inside.[81] According to Alvarez "those born in places that are temperately hot are the smartest, because they are more temperate in their *habits* and thus more prudent. They are not fearful or fierce, nor overly confident in themselves like those born in cold lands."[82] People born in temperate climates were better able to govern their bodies and lives. They had superior habits.

When Spaniards described Spanishness it was usually in reference to other Europeans. Manuel de Escobar noted that one of the defining features of the Spanish people was their good habits and the quality of the foods, "which are of good juice and quality." He attributed this epicurean lifestyle to the celestial influences of Spain, referencing Ptolemy's divisions of the earth. According to his reading of Ptolemy, the Jews, "Sirios," and English were inconstant in their religion and perverse on account of the heavenly influences, while the "Spanish on the contrary are and have been more constant than other people." Spaniards, according to Ptolemy, were "friends of the truth, and of loyal and sane hearts, because Jupiter and Saturn reign over us, and the English and Jews have subordination to Mars and Aires, and thus are very movable, particularly in sacred things."[83] This constancy, Escobar noted, made Spaniards more moderate in their habits, not over eating or drinking the way that other nations did.[84]

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[80] According to Ptolemy's system of *climas*, Egypt was ruled by Mars – a planet also associated with Spain.

[81] Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados..,* 314.

[82] Emphasis mine. Ibid., 316.

[83] Ptolemy also argued that this same influence made the men of Western Europe eschew the company of women, preferring that of men, but without being feminized in the process. But this was one of Ptolemy's theories that was not adopted by Spanish natural philosophers. Ptolemy, *Tetrabiblios*, ed. F.E. Robbins, 435 ed, Loeb Classic Library (Harvard University Press, 2009).

[84] "Es pues sin duda, que en toda España, la gente que tiene fuerzas y caudal es muy regulada y bien tratada y mantenida poniendo siempre mucho cuydado en el buen sustento de sus personas, sin separar en

Likewise, García constructed the Spanish against the French, arguing that the union of Luis XIII of France and the Infanta Ana of Spain was of providential design because the two nations were so opposed in every way. García noted that the French were quick to understand difficult problems. However, he argued, they did not get too deep, whereas the Spanish were slow to understand, but once they did, their knowledge was profound and bore many fruits.[85] Furthermore, Garcia contended that the Spanish mentality was speculative, not practical or "servile." For this reason "very rarely do you find a Spaniard involved in the mechanical arts, or in the office of shoemaker, tailor, carpenter, tavern owner and others, such that when the French come to Spain they return scandalized because they [did] not find hostels or taverns." The Spanish were not artisans, while the French were only interested in the practical application of knowledge.[86] Going back to the theme of Spanish constancy in religion, García noted that this quality was almost a feature of cowardice; such that if an article of faith was enumerated the Spaniards would not speculate freely about it "fearing that the fragility of [his] understanding might make some sort of error."[87] The French, García claimed, thought only in the present, while the

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el contece a otras naciones: tras los mantenimientos son muy buenos de mucho jugo y virtud…en esto tiene la gente Española loable y sualudable costumbere y esta se les debe atribur al a buena constelación que en España predomina y benignamente influeye…dice Ptholomeo en su Quadripartito lib 2 cap 3 que los Iudios y Sirios son inconstantes en la religión y perversos por la constelación que les influye, la qual los inclia a civios, cono acontece los Ingleses que comúnmente son mudables en las cosas de Dios, y esto se ve claro pues han sido hereges muchas veces y han desobedecido a la yglesia: los Españoles por el contrario son y han sido mas contantes que otras gentes. Y alabando el mismo Phtolomeo la cacion Española dize que somos muy amigos de la verdad y de corazones leales y sanos, porque reyna sobre nosotros Iupiter y Sagitario y como los Ingleses y los Iudios y otras naciones tienen subordinación a Mars y Aries son muy mudables, particularmente en las cosas sagradas…" Manuel Escobar, *Tratado De La Essencia, Causas Y Curación De Los Bubones Y Carbuncos Pestilentes: Con Otras Muchas Cosas Concernientes a La Misma Materia.* (Alcalá: Iusto Sanchez Crespo, 1600), 9-10.

[85] García, *La Oposicion Y Coniunción De Los Dos Grandes Luminares De La Tierra. Obra Apazible Y Curiosa En La Qual Se Trata De La Dichosa Alianza De Francia Y España*, 247.

[86] "[E]l entendimiento español es todo especulativo: porque no pretende en todos sus actos otro que la contemplacion de las cosas, sin ordenarla a alguna obra servil, o mecanica. Y assi muy pocos se hallaran naturales Españoles, que hagan algun oficio mecanico, como es zapatero, remendio, sastre, carpintero, tabernero y otros semejantes, de lo qual cito por testigos los Franceses que van en España, los quales vuelven escandalizados, por no hallar bodegones, ni hosterías, como en Francia....Pero el entendimiento Frances es del todo practico; porque no se contenta ni satisface con saber las cosas, si no la estudia para empléalas donde pueda sacar algún fruto provecho." Ibid., 249.

[87] "El entendimento Frances, aunque recibe y tiene por infalible las cosas tocantes a la Fe y Religion Christiana, con todo esso no ay remedio de detenerle, y fixarle en ellos, sino que quiere ver, considerar, y aun jusgar, si aquello que la fe le dize, es como ello entiende. Y hallando alguna dificultad con mucha facilidad da con la barca entierra creyendose assi mismo , y negando lo que todos dizen. El entendimiento de Español, es muy medroso y cobarde en lo que toca a la fe y determinacion de la Iglesia, por que en el

Spaniard weighed each thing with past and present, so that the French think nothing of offending, because it would be easily forgotten, while the Spaniard was very careful, because once offended his countrymen never forgot.[88] According to this author, the French were fickle in love, the Spanish constant. Indeed, he claimed that down to the order of eating fruit in a meal, Spaniards and Frenchmen were quite contrary. García considered all of this as evidence for the providential union of Ana and Luis.

Alvaro Alonso Barba described the Spanish nature in a very different way. Barba's treatise *Arte de los Metales* (1640) traced the cultural transmission of metallurgy from Adam to the Spanish, who were currently perfecting that art in their work on silver in the New World. Barba claimed that Cain, who had inherited the knowledge from Adam, "discovered" the art of metals and was the first to employ it. After the flood the knowledge was lost, but then was rediscovered in the Orient. Barba noted that this knowledge was then brought by the Phoenicians to Spain at a time when the Greeks and Latins were still "lost in their barbarism." He argued that the Romans brought the Spanish something else: the "art of war," which "awakened in their minds the first nature of their Fatherland."[89] The Phoenicians brought Spain the art of metals, but it was not until Rome aroused Spain's dormant Martian nature that this art found its true purpose.

Conclusion

Although sixteenth century Spaniards imagined themselves outside the Scholastic tradition, the world they inhabited was still defined by biblical authority and the teachings of the classic authors. History led from Creation to the Fall to the ascent of the Spanish on the world scene, and nature was ruled by Aristotle's premise that the inferior should be ruled by the superior. In the machine of the world, place was both determined and

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punto que se le propne un articulo de fe, alli para y meteraya a toda su sciencia, sabiduria, y discurso: y no solamente no procura saber si es, o no es, lo que la fe le dize, pero haze toda fuerte de diligencia, por no especular licenciosamente sobre ello, temiendo con la fragiligidad del entendimento, dar en algun error: de donde nace la puntual obediencia que los Españoles tienen a la Iglesia Romana, y la diferencia y deffencion que sobre ella y entre los Franceses." Ibid., 251.

[88] "Pero los españoles, han menester gran motivo para acordarse de una ofensa: pero una vez afentada, con grandissima dificultad la olvidan." Ibid., 257.

[89] Alonso Carrillo Laso, "Tratado Curioso: Descripcion Breve De Las Antiguas Minas De España," in *Arte De Los Metales En Que Se Enseña El Verdadero Beneficio De Los De Oro, Y Plata Pro Açogue* (Barcelona: ALEU, 1977 (1770)), 208-209.

was determined by the *quality* of the material. Man's body, uniting the baseness of the elements, with the lightness of understanding, occupied a privileged position within the natural order. Within this natural hierarchy, men and women occupied different spaces, just as Europeans and "Ethiopians" did. This differentiation was imagined in relation to the humors and the disposition of bodies. Although the capacity to reason, which allowed man to overcome the inclinations of the flesh, was the defining characteristic of humanity, some men were thought to have a greater propensity toward reason and moderation.

These sixteenth- and seventeenth-century articulations reflected the same root ideas that drove Columbus to the New World. As Wey argues, "natural places were thought to assign nations their unique positions in the hierarchy of polities as well as their roles in teleological history."[90] Imagining themselves as the inheritors of Greek and Roman dominance by nature of their special place in the world, these Spanish natural philosophers mapped their place according to a natural hierarchy. Place defined man and shaped his belonging. The same ideas that explained the dominance of the Greeks and Romans were applied by authors like Alvarez to Spain, which occupied roughly the same latitude. Spaniards imagined themselves in comparison to other Europeans, but also, as we saw in the astrological readings of Navarro, against the Turks, subject to different stars and heavens. Spaniards, according to Garcia were constant and easily offended, of a deep intelligence suited more to the sciences than practical or artisanal pursuits. According to Escobar Spanish constancy resulted from the domination of Jupiter and Sagittarius, which caused Spaniards to be moderate in their habits. On the other hand Barba celebrated Spanish bravery, and the influence of Rome which had awakened the warlike nature of the Spanish Fatherland.

[90] Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies*, 69.

Chapter 2. Hearts Like Fire: The First Generation

> "This is the order of things, this is the correct hierarchy, the supreme law of he who speaks with the voice of thunder: that in whatever part the inferior is subject to the superior and whoever contravenes or resists this power displeases God who placed this supreme order." [1] (Vasco de Quiroga, "Reino de Cristo" 1535)

By the time that Bernal Díaz del Castillo wrote his narration of the conquest of Mexico all of the "wonders" he described had been "overthrown and lost."[2] Yet Díaz's sense of astonishment remains in his account of the city, its surroundings, and its majestic inhabitants. Coming into the valley in early November of 1519, Cortés's men compared Tenochtitlán to legends of Atlantis, and wondered if they were dreaming. Impressed by the multitude of cities speckling the shores of the lagoon surrounding the Tenochtitlán, the canoe traffic, and the breadth and straightness of the causeway linking Iztapalapa with the city, Díaz and his men felt the inadequacy of their numbers. They found themselves surrounded by a multitude of curious Indians, who "had never before seen horses or men such as we are."[3]

Once inside the city, Cortés and his men were housed in one of the many and sumptuous palaces of Montezuma, who treated them as honored guests. Díaz described the emperor's wealth and power, his servants, jesters, dancers, hunchbacks, mistresses, table manners, and coffers full of gold. He wondered at the artisans employed in the palaces, the gardens, aviary, bestiary, and the distribution of the bodies sacrificed to Indian "idols." [4] But Díaz seemed most impressed with the manners of Montezuma and his consorts, remarking constantly on the great courtesy of the leader, the pomp of his

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[1] "Este es el orden de las cosas; ésta es la jerarquía correcta, suprema ley de quien habla con voz de trueno: que en cualquier parte el inferior este sujeto a su superior y quien contraviene o resiste al poder desagrada a quien puso Dios, orden supremo." Quiroga, *La Utopía En América*, 113.

[2] Bernal Díaz del Castillo, *The Discovery and Conquest of Mexico, 1517-1521*, trans. A. P. Maudslay (New York: Farrar, Strauss and Cudahy, 1956), 191.

[3] Ibid., 192.

[4] Ibid., 210-214.

retainers and the fact that even Montezuma's own chieftains did not dare look him in the face, "but kept their eyes lowered with great reverence."[5]

From the height of the central pyramid, Díaz described the white cities surrounding the lagoon, the three causeways linking the city, and the aqueduct with fresh water from Chapultepec. Above all, Díaz and his men were impressed by the size and order of the market, which sold so many things that "one would not have been able to see and inquire about it all in two days."[6] Some men among the company claimed to have seen Constantinople, Rome, and all of Italy, but had never seen such a large and well regulated market anywhere.[7]

Writing in part to justify the conquest, Díaz frequently played up the barbarous religious rites performed by the Mexicans. Describing the temple itself, however, the Castilian was not so offended by the blood in the temple or the horrible visages of the "idols" not to notice the gold and precious stones used in their construction. After they had seen the idols, Díaz relayed Cortés's earnest attempt to persuade Montezuma that his idols were not gods but devils, noting that Cortés asked his host to allow him to place an image of the Virgin in that shrine to ward off the demons. Montezuma replied angrily that he should not have shown him the gods, whom they considered to be very good, "for they give us health, and rains and good seed times and seasons and as many victories as we desire…"[8] After they had taken Montezuma prisoner in his own city, Cortés and his men finally prevailed in establishing the Virgin in the shrine, which was, according to Díaz's relation, the last straw for the Tueles (gods) who spoke to the priests saying that they should attack Cortés and his men and send them back across the ocean.[9]

When Cortés and his local allies finally defeated Tenochtitlán, the first thing he did was to clean the temple of Huitzilopochtli, creating a shrine for the Virgin of Remedios and ordering *copal* to be burned before the Cross.[10] This demonstration, before God, the Indians, and his fellow Spaniards, confirmed Charles V's rights to the city and its

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[5] Ibid., 193.
[6] Ibid., 217
[7] Ibid., 219.
[8] Ibid., 221
[9] Ibid., 252.
[10] Tzvetan Todorov, *The Conquest of America: The Question of the Other*, trans. Richard Howard (Harper Perennial, 1982), 61.

subjects, and religion as the basis for this right. Cortés and his men did not yet think of themselves as "Spaniards" but as Christians, Castilians or even more locally, as being from Extremadura, Badajoz, León, Granada, Sevilla, or Aragón.[11] Spain did not yet exist as a political unit, and Spanishness was just being born. This process had started with the *Reconquista*, which had driven the Moors from Andalusia, and it continued in the Americas.

This chapter looks at the first generation of "Spanish" occupation in New Spain, tracing conceptions of place and belonging. It argues that religion defined official discourse concerning Spanish belonging and "Spanishness" in this period, shaping the way that Spaniards interacted and understood the land, the Indians, and their mortality. Spaniards justified their belonging in New Spain through conversion, seeing their place in terms of their privileged relationship to God. At the same time, the mortality of the Indians laid bare the fact that Spaniards imagined the Indians as a natural resource, which they were willing to "consume," and proximity with Indian bodies shaped the way that Spaniards imagined their own. The first half of this chapter looks at the way that religion shaped Spanishness and Spanish expansion. The second half looks at the way that these ideas influenced Spanish perceptions of New Spain, her people, and their mortality.

I. Antecedents

Spain on the eve of conquest was in a period of transition and expansion in which "Spanishness" was coming into being. For seven hundred years the Iberian Peninsula had been home to a patchwork of kingdoms, both Christian and Muslim, and a *covivencia*, or living together, of Christians, Muslims, and Jews. In this world, belonging hinged on natality and the consent of the community, incorporating a plural yet unequal society. Jews and Moors living under Castilian rule had enjoyed a certain amount of self-governance under the Siete Partidas, the laws governing Castile from the twelfth century, as did Christian communities living under Muslim rule.

The conquest and expulsion of the Moors increased the lands controlled by the joint monarchy, and created a sort of Empire, in the Latin sense (*imperium*) meaning power

[11] Robert Himmerich y Valencia, *The Encomenderos of New Spain, 1521-1555* (Austin: University of Texas Press, 1991), 271.

rather than "dominion." Ferdinand, who led the effort, was able to rally a sense of Spanishness around the enterprise, making it more than just a Castilian project and because of the religious nature of the *Reconquista* Spanishness became deliberately associated with Catholicism.[12] By placing himself as the figurative leader in these battles, he was able to increase his personal dominion while the Pope, religious leaders, and nobles footed the bill.[13] The *Reconquista* became part of a larger Catholic Crusade, and Catholicism became a defining characteristic of what it meant to be Spanish. When Pope Alexander VI named Ferdinand and Isabella "the Catholic Monarchs" it was part of a larger millenarian narrative involving the defeat of the Turk and the conversion of all peoples and all nations.

Against this background, it is not surprising that the discovery of the New World was imagined in providential terms. As Gonzalo Fernandez de Oviedo, the Royal Chronicler of the Indies, pointed out in his multivolume *Historia General y Natural de Las Indias*, the year 1492 was a very important year for these monarchs. It began in January with the conquest of Granada, the last Muslim stronghold on the peninsula. Then, "at the end of July, [the monarchs] threw the Jews out of their kingdoms." That December, Ferdinand suffered an assassination attempt, which left the king weak for the triumphant return of Columbus.[14] Within a year they had extended their territories to the furthest reaches of the peninsula, and across an ocean to a land that no one knew existed. They had done this in the name of God. Columbus and many of his contemporaries saw the "discovery" as a new age of Crusades. He imagined himself in a Messianic role, "opening the door of the Western sea" for the final Crusade, which would bring on the end times.[15] As the historian Delno West has explained, "the discovery of the New World was seen by him

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[12] "Spain" remained a fictive entity, and would not be consolidated politically till the eighteenth century. Henry Kamen, *Empire: How Spain Became a World Power, 1492-1763* (Perennial Press, 2003), 37.

[13] The church in part 'footed the bill' but only because the Catholic Kings secured the *Patronato Real* from the Papacy: ie the right to collect and reinvest revenues from the *Bula de la Santa Cruzada* and other church finances. Ibid., 16.

[14] Gonzalo Pérez de Tudela y Bueso Juan Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias* (Madrid : Ediciones Atlas, 1992). Vol. 1, Tomo CXVII, 30.

[15] John Leddy Phelan, *The Millennial Kingdom of the Franciscans in the New World*, 2nd Edition, Revised ed. (Berkeley and Los Angeles: University of California Press, 1970), 21

and others as an event which ranked with the Creation and Christ's Incarnation and Passion."[16]

Describing the return of Columbus to Spain after his first voyage in 1492, Bartolomé de Las Casas stressed the wonder and awe of those who heard of the discovery of a "new world." The pageant was both public and sumptuous, and all manner of people anxiously waited to see the "hero," the "Indians, the parrots, the gold and other novelties," which had caused rejoicing "in all of Christendom." Approaching the royal stand, Columbus told the king and queen about the "favors God had granted the Catholic kings," and he described the simplicity and gentleness of the Indians who were "ready to receive the faith." According to Las Casas, the king and queen sank to their knees in deep gratitude to God, and soon everyone began to plan the "settling of the land and converting people."[17]

Upon the return of Columbus in 1493, Pope Alexander VI granted the joint monarchy a Papal Bull, known as the *inter caetera,* recognizing Spain's rights to the lands and the people west of the Azores. This bull granted Spain all the "graces, privileges, exemptions, liberties, facilities, and immunities" which had been granted to the king of Portugal in 1455. As Anthony Pagden has pointed out, one of the privileges granted to Portugal included the right "to reduce to perpetual slavery the inhabitants of all the African territories from Cape Bojador and Cape Nun 'and hence all southern coasts until their end."[18] Thus, according to the Bull of 1493 the Spaniards also enjoyed the right to "reduce to slavery" the inhabitants of the lands newly "discovered." However, the 1493 bull contained a qualifying clause warning the monarchs not to inflict "hardships or dangers" on the peoples encountered.[19] The papal "donation" also enjoined the Monarchs to Christianize the natives of the lands they received, thus predicating Spanish dominion on evangelization and the temporal authority of the Pope. The

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[16] Delno C. West, "Medieval Ideas of Apocalyptic Mission and the Early Franciscans in Mexico," *The Americas* 45, no. 3 (1989), 303.

[17] As cited in Delno C. West, August Kling, and Christopher Columbus, *The Libro De Las Profecías of Christopher Columbus* (Gainesville : University of Florida Press : Order from University Presses of Florida, Edition: An En face ed, 1991), 43.

[18] Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, 30.

[19] Ibid., 29.

document's insistence on conversion reaffirmed the messianic mission of the monarchs, hinging Spanish belonging on an evangelizing mission.

Poised against the Turkish Empire, Ferdinand and Isabella self-consciously allied themselves with the expansion of Christianity, constructing a new "Spanishness" which was defined by faith and traceable in blood lines. By limiting social mobility and public office to those who could prove *limpieza de sangre*, or purity of blood, the Royal Pragmatica of 1501 effectively made Christian heritage a physical inheritance that equated conversion with a "taint" in one's bloodline. The *Royal Pragmatica* excluded New Christians from public offices, including "public notaries, lawyers, surgeons, pharmacists, and assayers," and forty other professions.[20] Purity of blood essentially supposed a type of metaphysical inheritance that then became the basis for hierarchical divisions. As María Elena Martínez has pointed out, the designation of "New Christian" was transferred from the Iberian situation and applied to Indians and blacks in New Spain.[21] Through the idea of *limpieza de sangre* "Spanishness" and Christianity were linked in the body, which became the locus for hierarchical designations, so that eventually phenotype came to be a marker for "purity" or "taint."[22] This then became the defining feature of *naturaleza,* a concept which "constituted a community that defined who could enjoy the rights of Spaniards."[23]

Tamar Herzog has examined categories of legal belonging in Spain such as *vecindad* (citizenship) and *naturaleza* (nativeness) arguing that these were transformed over the course of the sixteenth century. The term *vecindad* was originally applied in the eleventh and twelfth centuries to the duties and privileges of those immigrants settling in the

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[20] Though it originally started out as a proof of old Christian heritage it began to signify legitimacy as well, so that by the end of the sixteenth century they were used interchangeably. Ann Twinam, *Public Lives Private Secrets: Gender, Honor and Illegitimacy in Colonial Spanish America* (University of Wisconsin Press, 1999), 45-47.

[21] Martínez argues that while Indians and Mestizos were partially cleared of the "stain" of their converted status, blacks never were. For example in 1624 the Inquisition decided to grant *limpieza de sangre* to those with a less than a quarter native blood. Maria Elena Martinez, "The Black Blood of New Spain: Limpieza De Sangre, Racial Violence, and Gendered Power in Early Colonial Mexico," *The William and Mary Quarterly* 61, no. 3 (2004), 7.

[22] By the eighteenth century, these distinctions were graduated on a scale starting with Mestizos and Mulatos (½ Spanish & ½ Indian, or ½ Spanish & ½ African) to Albino (7/8 Spanish & 1/8 African) or mixtures such as the fanciful *Salta Atrás* (jump back) (3/8 Spaniard, 1/8 African & ½ Indian)

[23] Herzog, *Defining Nations; Immigrants and Citizens in Early Modern Spain and Spanish America*, 10.

former Muslim areas. These *vecinos* extended the reach of Christian kingdoms into Muslim territory in the form of newly created polities with local *cabildos*. Among other things *vecinos* were generally allowed to use communal lands, and in smaller communities they participated in managing local affairs through the local council. In larger communities membership in the council was limited to privileged individuals, but *vecinos* could still participate in the election of representatives and in public meetings. The second category of belonging, *naturaleza* (nativeness) was a Castilian category separate from vassalage and subjection. The *Siete Partidas* defined *naturaleza* as "one of the greatest obligations people can have with one another. If nature ties them by lineage, nativeness converts them into a single unit through the long practice of loyal love." According to this body of laws, nativeness could be achieved through birth, "vassalage, nurture (*crianza)*, knighthood, marriage, inheritance, rescue from captivity, death or dishonor, emancipation, *conversion to Christianity*, or ten years' residence."[24] Herzog argues that in Castile this tradition changed as the allocation of benefices was more jealously guarded, and birth, descent, or a prolonged residence became the primary foundations for nativeness. By the sixteenth century *naturaleza* came to define a community of people capable of office holding and ecclesiastical appointments, and because immigration to the Americas was technically limited to Old Christians, *naturaleza* came to define the "Spanish" population in the Americas. [25]

While Old Catholic blood came to define who was Spanish, jurists looked for another explanation and justification for Spanish belonging in the New World. Reacting to the perceptions of many Spanish friars and officials who decried the bestiality of the Indians, Spanish jurists began to debate the humanity of the Indians.[26] The issue had

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[24] Emphasis mine. Ibid., 68.

[25] In the sixteenth century this group was given the exclusive right to emigrate and trade with New World. These rights initially defined only Castilian natives but by 1596 natives of all the Spanish kingdoms were allowed to make the crossing.

[26] Dominican friar Tomás Ortiz, disappointed after Chichitibuchi Indians burned their mission, went before the Council of the Indies saying that the Indians were like "asses," incapable of doctrine or being truthful. Following a popular thread of discourse, Ortiz said that the Indians showed promise around the age of twelve, but that "from then on they became like brute beasts." Another Dominican, Domingo Betanzos, allegedly testified that the Indians were not of the same "nature" as the Spaniards and thus unable to convert. Others compared them to parrots, repeating hollowly the Catholic doctrine taught to them, without any comprehension. As Patricia Seed has noted, those who contended that the Indians were animals rarely identified the Indians with any specific animals, but rather as an inferior other. "The so

started in 1511, when the Dominican Antonio de Montesinos delivered a series of fiery sermons chastising his fellow countrymen for their treatment of the Indians. His sermons called into question the Spanish occupation in the New World, asking what right Spain had to come and make war against the Indians, "who dwelt quietly and peacefully on their own land?"[27] Chastising the residents of Cuba for their treatment of the Indians he asked, "are these not also men?" "Do they not also have rational souls?"[28] At the heart of this debate, lay the assumption, of course, that Spaniards did possess rational souls- which defined their place in the metaphysical world, and the political world.

Specifically, proponents argued that the Indians were not fully human in that they did not posses rational souls. As we saw in chapter one, the possession of a rational soul was the determining factor for humanity and man's ability to reach his full Christian *telos*, or end. According to a classic Aristotelian argument men without the capacity to reason might be slaves by nature. If the Indians lacked this capacity, then they might justly be enslaved. John Mair, the famous Scottish philosopher, was the first to propose this solution. As Anthony Pagden has pointed out, "Mair had in effect, established that the 'Christian' claims to sovereignty over certain pagans could be said to rest on the *nature* of the people being conquered, instead of on the supposed juridical rights of the conquerors."[29]

This argument solved two juridical problems but went against the thrust of Spanish expansion. It obviated the need for the Papal Bull, which was increasingly vulnerable to attacks by those (such as Protestants) who argued that the Pope had no temporal authority. Second, if the Indians did not have rational souls, then their domination could be justified by Natural Law, and Spanish belonging could then be predicated on this "natural" distinction. But it also meant that the Indians could not be converted, because without reason they would not have the necessary capacity to fully recognize the

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called bestiality of the Indians was in this sense a definition of the Indians as radically other than the Spaniards, and unable to become like them." Patricia Seed, "Are These Not Also Men? The Indians' Humanity and Capacity for Spanish Civilization," *Journal of Latin American Studies* 25, no. No. 3 (1993).

[27] As cited in: Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*.

[28] Seed, "Are These Not Also Men? The Indians' Humanity and Capacity for Spanish Civilization.", 17.

[29] Emphasis mine. Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, 39.

Universal Truth of Christianity. This would preclude the evangelization of the Indians, allowing for the outright enslavement of these peoples.

II. Situation in New Spain

While the humanity of the Indians was being debated in Spain, Cortés proceeded under the conviction that the conversion of the Indians was justification for conquest, and the basis for Spanish belonging in the Indies. In his letters to the Crown, Cortés argued that the conversion of the Mexicans was the sole purpose for conquest. Remarking on "the diligence and vigilance with which the *naturales* of these parts have in the culture and veneration of their idols," he contended that "God would be well served and we would reap glory for our souls…if our principle motive and intention should be to estrange and uproot the *naturales* of these parts from the said idolatries, and reduce them […] to the knowledge of God and his Sainted Catholic Faith." This, he declared, was the only justification for conquest: "because if with another intention one makes war, it would be unjust, and everything done in it would be contingent and obliged to restitution."[30] Conversion, and conversion alone, provided an adequate justification for the imposition of Spanish will.

This had been formalized into proceeding with the *Requirimiento*, a document that established Spanish claims based on the Papal donation of 1493, and the right of the Spanish Crown to reduce to slavery anyone who refused the True Faith. Drawn up by Rubios Palacios in 1514, the document was to be read to the natives in the presence of a notary, who would chronicle the event. The text based Spanish rights of dominion on the Papal bull, enjoining the Indians to submit to Catholicism and Spain. If the community agreed to conversion, the text promised and end to hostilities. However, if the people tried to resist, the text warned them, "We shall take you and your wives and children, and shall make slaves of them, and as such shall sell and dispose of them as their Highness may command; and we shall take away your goods, and shall do all the harm and any

[30] Appendix of Fray Toribio de Motolinía, *Historia De Los Indios De La Nueva España* (Linkgua, 2006), 436.

damage that we can, as to vassals who do not obey, and refuse their lord, and resist and contradict him."[31]

Giving Spanish conquistadors the widest possible latitude in their treatment, the document absolved the Crown and conquistadors of all blame by laying it on the Indians themselves for their refusal to submit. As it might be imagined, this document was treated as somewhat of a joke, even by its author who is reported to have laughed many times at the descriptions of its implementation as told to him by Gonzalo Fernández de Oviedo, the first chronicler of the New World, who initially went to the Americas to serve as the notary necessary to make the reading of the *Requirimiento* legal.[32] This laughter seems almost gruesome alongside the descriptions of Las Casas, whose *Short Account of the Destruction of the Indies,* paints the reading of the *Requirimiento* as a formality which frequently preceded total massacre.

As Ryan Crewe points out, the *Requirimiento* solidified the idea that vassalage depended on conversion, which became the only salvation from enslavement.[33] In the Caribbean, as in the Canaries, slaving interests outweighed missionary efforts, and while some native groups did reach out to missionaries and conversion as means of self-preservation, epidemic disease, heavy tribute requirements, and a total disruption of native life ways decimated native populations. Mortality on the islands was so rapid that by 1510 Spanish residents were already petitioning Ferdinand to send African slaves.[34] By 1524 the population on Santo Domingo was so low that missionaries there proposed congregating them so that "they do not completely disappear."[35] This experience would serve as a cautionary tale for later colonizing efforts.

In New Spain, Cortés employed the *Requirimiento* as a tool indicating his objectives. With the help of Gerónimo de Aguilar, a Spaniard who had been shipwrecked eight years earlier and spoke Maya, and the subsequent acquisition of Doña Marina, La Malinche, who spoke both Maya and Nahua, the lingua franca of the Aztec empire, he advanced

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[31] As cited in: Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*, 33.
[32] Ibid., 35.
[33] Ryan Crewe, "Between the Sea and the Infidels: The Sixteenth-Century Mexican Mission Enterprise in the Formation of New Spain" (Dissertation, Yale University, 2009).
[34] Kamen, *Empire: How Spain Became a World Power, 1492-1763*, 135.
[35] Crewe, "Between the Sea and the Infidels: The Sixteenth-Century Mexican Mission Enterprise in the Formation of New Spain", 58.

toward the capital reading the *Requirimiento* throughout the land. Crewe argues that this was not merely a symbolic show of Spanish unity or group cohesion but that "Indigenous rulers first heard of Christianity as a Spanish political imperative, and while the Spaniards could not yet carry out the promises and threats that they were required to convey to Indians, the protocol became a central element in the shifting diplomacy of the war of conquest."[36] By the time Cortés arrived in Tenochtitlán the text of the *Requirimiento* was so familiar in the land that Montezuma asked him to dismiss with the formality of reading it, as he was well aware of the contents and had no intention of trading in his own Gods for those of the Spaniards. As Crewe points out, many of the demands in the *Requirimiento* made sense in terms of Aztec diplomacy, which also used ritualized threats and the ritual destruction of temples and Gods in conquered areas.[37]

The epidemic of smallpox that accompanied the conquest greatly facilitated the Spanish victory. This epidemic has historically been attributed to an African slave who was part of the Pánfilo de Narváez expedition.[38] However Robert McCaa has demonstrated that this story originated with Toribio de Motolinía, the famous Franciscan chronicler. McCaa argues that the pestilence was actually spread from Cuba to Cozumel, which the Narváez expedition found decimated, and then carried by the Narvaez expedition to Veracruz.[39] Months later Vázquez de Ayllón reported the details of the Narvaez expedition, mentioning only as a quick aside that the disease "stuck" (pegar) the Indians of Veracruz and had "caused much harm."[40] From here the contagion spread rapidly across the mainland. It struck with such fury that whole households were wiped out while others died of starvation because there was no one to care for them.[41]

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[36]Ibid., 77.

[37]Ibid., 81.

[38] The story of the black slave has been repeated in countless chronicles. Robert McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico," *Journal of Interdisciplinary History* Vol. 25, no. 3 (1994), 402-404.

[39] It is also possible that the disease had already been roaming around the area. In the *Codex Chimalpopoca*, it describes depopulation in several towns in the years following Columbus's discovery, and it is very likely that these pathogens preceded the Spaniards to Mexico. *Códice Chimalpopoca: Anales De Cuauhtitlan Y Leyenda De Los Soles*, 3 ed. (México, D.F.: Universidad Nacional Autónoma de México, 1992).Item 206, 58.

[40] McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico.", 404.

[41] Debate rages between the "virgin soil" theory, which posits that New World peoples suffered more because they did not have immunity, or genetic variation theory, which posits that Amerindians suffered

The Indians called it *hueyzahuatl*, the great leprosy, because it left those who survived scarred with pox and frequent blindness. Spreading from the coast, it hit the capital Tenochtitlán just after the Spanish were repelled by Cuitlahuac in the famous *Noche Triste*, and was still raging two months later when Cortés and the Tlaxcalans returned to take the city. It took both the powerful and weak, claiming the life of the new Aztec leader Cuitlahuac, who had been named to replace Montezuma, and must have greatly facilitated the conquest, although neither Cortés nor Bernal Diaz del Castillo paid much attention to it in their narrations of the conquest.[42]

In the years that followed, Cortés and his men destroyed temples, images, and documents wherever they went, melting down anything made of silver or gold, and "converting" as many Indians as possible. This process involved a renegotiation of power between Cortés and native leaders. In these transactions, Cortés very consciously constructed a new order in which "Spanishness," that is, the adoption of Spanish names, conversion, and the possession of Spanish artifacts and clothing were equated with authority. With these symbols, he replaced the central authority of the Mexica while confirming local hierarchies.

Because Spanish belonging rested on the evangelization and "Christianization" or civilization of the Indians, people rather than parcels functioned as the units of acquisition, and land distribution in New Spain initially remained much as it had been pre-conquest.[43] Rather than assigning seigniorial rights over land, Indians were "commended" to the charge of layman, usually as a reward for military service, who

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more because they had less genetic variation that Europeans. While David S. Jones has proposed that it "could well be that the epidemics among American Indians, despite their unusual severity, were caused by the same forces of poverty, social stress, and environmental vulnerability that cause epidemics in all other times and places." David S. Jones, "Virgin Soils Revisited," *The William and Mary Quarterly* 60, no. 4 (2008).

[42] Though he details the sieges and battles for the city, he mentions the pestilence only in terms of the death of Cuitlahuactzin, Montezuma's successor, saying "Many leaders, many veteran soldiers, and valiant men who were their defense in time of war, also died." McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico.", 408.

[43] The majority of the land remained in the hands of the Indians, in the form of *calpullalli* land, or land that was partitioned for harvest among *calpulli* members, but owned collectively by the *altepetl*. Other types of community lands, such as *tlatocatlalli*, or office lands, which were worked in common for the maintenance of the local leaders frequently made the transition, and continued to support *gobernadors* or *caciques* Charles Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810* (Stanford University Press, 1964), 258.

could then collect labor and tribute from their charges. In exchange *encomenderos* were expected to make sure that the Indians under their care received baptism and proper religious education. Introduced in Hispaniola by Nicholás de Ovando in 1502, the *encomienda* system was loosely based on the trusteeship under which the Moorish provinces of Spain had been governed, although with some variation. As Robert G. Keith has pointed out, the main similarity between the two systems was the temporality of the appointments, which were subject to dissolution at the whim of the Crown.[44] This temporality may have been detrimental to the lives of the indigenous because *encomenderos*, knowing that their privileges were temporary, had little stake in their survival. For this reason, the *encomienda* system had already come under attack by the religious before Cortés reached Mexico and was outlawed by the Crown, but Cortés refused to honor the prohibition of the system citing the expectation of his soldiers, the need to regulate the Indians, and the need to protect them from their own rulers.[45]

In New Spain, the situation was somewhat different. First, the population of New Spain was both dense and settled. Intensive cultivation and irrigation maintained a population so numerous that, ten years after the conquest, Franciscan friar Vasco de Quiroga described it as "like the stars or grains of sand," uncountable.[46] Second, the Indians of New Spain were already organized into political units and were accustomed to paying tribute, so that while Cortés totally restructured the system of tribute in the land with the implementation of the *encomienda* system, it was not a total reorganization of Indian life. Pre-existing social and political units, called *tlatoani*, were distributed among the conquistadors.[47] Just as *vecinos* in Andalusia had expanded the jurisdiction of Castile into Moorish territories, the *encomenderos* became *vecinos* in the Indian towns in which

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[44] Robert G. Keith, "Encomienda, Hacienda and Corregimiento in Spanish America: A Structural Analysis," *The Hispanic American Historical Review* 51, no. 3 (1971), 434.

[45] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 59.

[46] "y porque hay tantos, que parece que son como las estrellas en el cielo y arenas en la mar, que no tienen cuento y no se podría allá creer la multitud de estos indios naturales." Quiroga, *La Utopía En América*, 62.

[47] There were some variations on this for example there were some multi-tlatoani encomiendas, such as Xochimilco, Cuitlahuac and Azcapotzalco. Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 66.

they were given jurisdiction.[48] Thus pueblo by pueblo New Spain was consolidated under the Crown. The *encomenderos* then negotiated with local leaders, *tlatoque*, whom the Spanish called *caciques*- a word coming from the islands, over tribute and labor.[49]

The Indians stood, both figuratively and symbolically, between the Spaniards and the land, and the majority of the land remained in the hands of the Indians. Much of this land was *calpullalli* land, or land that was partitioned for harvest among *calpulli* members but owned collectively by the *altepetl*. Other types of community lands, such as *tlatocatlalli*, or office lands, which were worked in common for the maintenance of the local leaders frequently made the transition, and continued to support *gobernadors* or caciques.[50] Privately owned plots or *teotlalli* lands, which had supported the temples, were frequently grabbed up by both Spaniards and Indians. First Cortés and later the *cabildo* of Mexico City assumed the right to grant land titles and redistribute private lands held by Aztec nobles. But, as Gibson has observed, in the early years Indian occupation of the land inhibited Spanish usurpation, and wealth derived from landholding or livestock only became viable after the development of a sizeable Spanish market.[51]

Evangelizing the Indians

Although *encomenderos* were theoretically responsible for the conversion of their charges, this process did not start in earnest until the arrival of Pedro de Gante in 1523 and the "apostolic twelve" the following year. These Franciscan mendicants walked the 250 miles from Veracruz barefoot. When they reached the city they were met on one of the causeways by an assembly of all the most powerful Spaniards in the colony. Cortés and his men made great show of bowing low to these seemingly humble men, in a symbolic production that was not wasted on the Indians. The twelve, meant to represent the original Twelve Apostles, imagined themselves in a millenarian context. The Franciscan order had long associated itself with Joachim de Fiore's "New Spiritual Men"

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[48] See Himmerich y Valencia, *The Encomenderos of New Spain, 1521-1555*.

[49] Later, with the passing of the New Laws in 1542 these grants were limited, and by the turn of the seventeenth century most of the encomiendas had reverted to the Crown under the supervision of a corregidor, or Spanish official.

[50] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 258.

[51] Ibid., 272

who would be responsible for the conversions leading up to what Fiore and others imagined as the Third Age, a period of peace and harmony before the Day of Judgment.[52]

Mendicants played a new and very worldly role in New Spain, evangelizing and serving as parish priests. Because they were the first to arrive in New Spain the Pope confirmed on them special privileges reserved for Bishops in the Ecclesiastical hierarchy in Europe. The bull *Exponi Nobis* granted by Pope Leo X gave provincials who were more than two days journey from a bishop the right to confer minor orders, bless chapels, altars, chalices, and sacred furnishing, and confer indulgences. Armed with these powers, members of the regular orders, especially the Franciscans, undertook the conversion and indoctrination of the Indians and established an ecclesiastical system that had no need for the secular hierarchy. So when the first bishops came to New Spain, they basically had to superimpose the ecclesiastical administration on the foundations laid by the mendicants.[53]

The Franciscans were followed by the arrival of twelve Dominicans in 1526 and a convoy of Augustinians in 1533. These groups vied with the Franciscans for influence, but by the time that the Dominicans arrived the Franciscans had already established themselves in the foremost parts of New Spain, including Tenochtitlan, Tlaxcala, Texcoco, Tlalmanalco, and Xochimilco, and they remained the dominant order throughout the early colonial period. The Dominicans established houses in the areas controlled by Cortés, Coyoacan and Tacubaya, and Chalco, while the Augustinians moved into Acolman, Culhuacan, and Mixquic. [54] The Jesuits arrived much later in 1572, and moved into the Northern provinces, where they were important in the conversion of the northern or "savage" tribes, generally referred to as the "Chichimecs."

The 1530s witnessed what historians have termed the Great Conversion.[55] Friars such as Toribio de Motolinía speak of priests baptizing four, five, and six thousand

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[52] West, "Medieval Ideas of Apocalyptic Mission and the Early Franciscans in Mexico.", 295

[53] Stafford Poole, *Pedro Moya De Contreras: Catholic Reform and Royal Power in New Spain, 1571-1591* (University of California Press, 1987), 67.

[54] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 99.

[55] See for example: Robert Ricard, *The Spiritual Conquest of Mexico: An Essay on the Apostolate and Evangelizing Methods of the Mendicant Orders in New Spain: 1523-1572* (Berkeley: University of California Press, 1966). Phelan, *The Millennial Kingdom of the Franciscans in the New World*.

Indians per day, and one dedicated Franciscan in Xochimilco who baptized 15,000. As mentioned earlier, the Franciscans invoked "urgent need" and brought back the use of mass baptism utilized in the conversion of the Moors in Granada. The normal conventions of baptism were put aside and converts were expected only to have learned the credo and to make the sign of the cross; oil and exorcism were omitted and friars relied only on holy water and blessings. Motolinía described having blisters on his hands from holding the pitcher of water, and claimed that friars had baptized four million Indians before 1536.[56]

In 1536 the Mexican Council sent a representative to the pope asking him to intervene in the debate over the humanity of the Indians. [57] The following year, Pope Paul III published the *Sublimus deus*, declaring that the Indians were indeed men capable of understanding the Catholic faith. The Papal decision referred to Matthew 28:19 "Go and make disciples of all nations," noting that the phrasing "all nations" meant that they were all capable of receiving the faith. The decision attributed the desire to take the humanity away from the Indians to the devil, who inspired men's hearts with greed. The same bull further commanded that the Indians "must not be deprived of their freedom and the ownership of their property, even though they are outside the faith of Christ." [58] Although King Charles revoked the *Sublimus Deus* because it infringed on his

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[56] Motolinía, *Historia De Los Indios De La Nueva España*, 162, 108.

[57] Patricia Seed has argued that, while the religious were originally split on the issue of Indian humanity, the conquests of Mexico and Peru and the expansion of the Imperial project convinced them to close ranks in favor of the humanity of the Indians and their capacity for conversion. According to Seed, the religious "rightly perceived that if the Indians were declared to be lacking the capacity to become Christians (or judged to have little ability to do so) they would be edged out of the responsibilities and the unprecedented power they enjoyed in the New World." However, while there is no doubt that the religious may have had their own political stake in mind when they pushed for the humanity of the Indians, Seeds argument glosses over much of the discourse on this subject and the fact that Spanish encounters in Peru and Mexico fundamentally changed the way that Spaniards imagined the Indians. Unlike the peoples encountered on the islands, both Peru and Mexico were civilized. They had cities, taxes, social divisions, religion, irrigation, mining, commerce, and justice systems. They had complicated and accurate calendrical systems that accounted for a 365 day year, something only achieved by Europeans after Copernicus and the Gregorian reform. Although they did not have writing, both had systems of notation- hieroglyphs in the case of the Mexicans and *quipus* in Peru. Seed, "Are These Not Also Men? The Indians' Humanity and Capacity for Spanish Civilization.", 639.

[58] Bartolomé de Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas* (DeKalb: Northern Illinois University Press, 1992), 100.

prerogative in the Indies, it is likely that this exhortation had some influence in the abolition of Indian slavery in the New Laws four years later.[59]

While there is no doubt that many individual Spaniards doubted the humanity of the Indians, and saw their own place in the New World as a result of their "natural" superiority, only the salvation of souls could justify the loss of so many, and the evangelization of the Indians would remain the primary basis for Spanish belonging in New Spain throughout the early colonial period. The mendicants worked on the front lines of Spanish expansion, consolidating the allegiance of Indian communities and curbing the excesses of Spanish laymen and conquistadors. Later, the crown would attempt to curb the power of the mendicants, but during this first generation their presence and work both justified and strengthened the Spanish project.

III. Spanishness, Nativeness, and the Nature of New Spain

Part of the process of conquest and settlement was the appropriation of the land and people through description. As Alejandro Cañeque has pointed out, the construction of the "colonial" apparatus was done through language.[60] When the ruling party has no army or standing police force, power is constructed through language and symbolic capital.[61] In the Spanish empire, words defined rights and obligations; they also defined the identity of the Indians, and their position in the nascent society. The importance of words is born out by the fact that the Laws of Burgos, published in 1513, actually outlawed the practice of addressing the natives as "dogs."[62]

In many ways the descriptions sent back to Spain, both in the form of chronicles and letters to the king, stood in for the Indians, and the newness of the world opened a space for invention, and the re-invention of self. Kathleen Ann Myers argues that this idea

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[59] Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*, 150.

[60] Cañeque notes that the word colonial is problematical when used to describe the Spanish possessions in America, as these were thought of as either "territories" or even "kingdoms," but that in relation to the consolidation of power over the Indians, the Spanish project very closely resembled 19th century European colonial models. In this sense the word colonial is an apt description of the relationship between Spaniards and Indians in the American kingdoms. Cañeque, *The King´S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*, 15.

[61] Ibid., 52.

[62] Las Casas himself was unmoved by Montesinos critique, and continued to own Indians participating in further expeditions to new areas. "Introduction" by Anthony Pagden in Bartolomé de Las Casas, *A Short Account of the Destruction of the Indies*, trans. Nigel Griffin (Penguin Classics, 2004), xxv.

informed the writings of Gonzalo Fernandez de Oviedo y Valdés, whose *Historia general y natural de las Indias* (1545) was one of the first texts to describe nature and people of the Americas. Oviedo, she notes, "made his role as a witness and writer an integral part of a complex argument in which he proposed that through the record of his own experience he would enable the king to know the nature of the Indies."[63] In a far flung empire words were powerful, and experience counted as authority.

Gonzalo Fernández de Oviedo y Valdés, conquistador and royal chronicler.

Gonzalo Fernández de Oviedo y Valdes spent almost his entire life in the service of kings. As page to the prince Don Juan, he witnessed the consolidation of power under Ferdinand and Isabella, the conquest of Granada, and was present at the audience of Columbus upon his return from the New World.[64] Later in Italy, he met contemporary luminaries, such as Leonardo da Vinci and the humanist Giovanni Pontano.[65] Oviedo was among the first to experience the New World, working as a notary and *veedor* in Tierra Firme, coming and going many times between 1514 and 1532. In 1526 the bureaucrat expanded his horizons, publishing *De la Natural Historia de las Indias* in Toledo at his own expense.[66] In 1532 Oviedo returned to the Americas, this time to Santo Domingo with the title of royal chronicler of the Indies. His expanded *Historia General y Natural de las Indias* was completed by 1549, and parts of it were published in 1535, but the entire work was not published all together until 1850.[67]

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[63]Kathleen Ann Myers and Nina M. Scott, *Fernández De Oviedo's Chronicle of America: A New History for a New World* (Austin: University of Texas Press, 2007). , 63.

[64] "Aquestos notables se han traído ala memoria para señalar el tiempo en que Colom llego a la corte, en l cual yo hablo como testigo de vista, porque me hallé paje, muchacho, en el cerco de Granada, e vi fundar la villa de Santa Fe en aquel ejercito, e después vi entrar en la ciudad de Granada al Rey e Reina Católicos, cuando se les entregó; y vi echar los judíos de Castilla, y estive en Barcelona cuando fue ferido el Rey como he dicho, y vi allí venir al Almirante, don Critóbal Colom, con los primeros indios que destas partes fueron en el primero viaje e descubrimiento." Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias*. Vol. 1, Tomo CXVII, 30.

[65] Myers and Scott, *Fernández De Oviedo's Chronicle of America: A New History for a New World*. p. 15.

[66] "Biographical Note" by E.D.T. Gonzalo Fernández de Oviedo y Valdés, *De La Natural Hystoria De Las Indias. Uniform Title: Sumario De La Natural Historia De Las Indias* (Chapel Hill: University of North Carolina Press, 1969). p. xv.

[67] Myers and Scott, *Fernández De Oviedo's Chronicle of America: A New History for a New World*. , 24.

Although Oviedo did not write specifically about New Spain, he is important in understanding the tropes developed there because his *Historia General y Natural* was the basis for much of the later discourse on the nature of New Spain, and its people. Oviedo is a classic example of the "new men" of his generation, who, basing their authority on their "experiences," contributed to the expansion of natural knowledge. As such he is representative of the culture of science in New Spain, where priests and untrained officials such as Oviedo adopted the persona of natural philosopher.

Oviedo, like many of his contemporaries, was quite conscious that he was describing new things, unknown by the ancients. In his chapter on the American tiger, for example, Oviedo described the Pillars of Hercules. These mythic pillars straddled the neck of the Mediterranean, one in Spain and the other in Africa. Oviedo noted that these pillars denoted the entrance to the "Sea Ocean," as the Atlantic was imagined then, and carried the inscription *plus ultra,* more beyond. He implied that moderns, such as himself, were describing that "more beyond."[68] As Kathleen Myers has pointed out, the discovery of the Americas served as a catalyst to a new way of seeing and describing that moved away "from a medieval schematic or conceptual idea of an image to a more empirical image that attempted to convey the appearance of an object."[69]

To accomplish this Oviedo went back to the *Natural History* of Pliny. Pliny's encyclopedic *Natural History*, which appeared in 77 A.D, provided the perfect template for elucidating the new found wonders of the Indies. The work sought to give the history of the entire known world. Citing over 500 authorities, it contained chapters ranging from "The Praise of Elephants; their wit and understanding" to "The manifold, strange, and wonderfull formes and shapes of men"[sic].[70] When the world suddenly grew to include the Americas, many Spanish writers, such as Oviedo, Acosta, and Martínez, sought to expand on Pliny's work by describing the natural landscape and peoples found

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[68] Fernández de Oviedo y Valdés, *De La Natural Hystoria De Las Indias. Uniform Title: Sumario De La Natural Historia De Las Indias*, 39.

[69] Myers and Scott, *Fernández De Oviedo's Chronicle of America: A New History for a New World*, 66.

[70] the Elder Pliny, *Pliny's Natural History: A Selection from Philemon Holland's Translation*, trans. Holland Philemon (Oxford: Clarendon Press, 1964), 66, 43.

in these new areas of the world.[71] They followed Pliny's lead in including the peoples of the New World under the heading of "natural history" out of a shared belief that only their own culture had a real history.[72]

One of Oviedo's principal aims in his *History* was to address the new natural phenomenon of the New World, and he adopted the position of witness in his descriptions.[73] Oviedo was one of the first Europeans to witness the Southern Cross, a group of stars visible only from near the equator. This image was later given to Oviedo by the king to use in his shield along with his family crest from Valdés, and he described it in text and figure. Tobacco, coca, and henequen were among the plants described in the *History*. Oviedo described the use of tobacco by the Indians as "among their other vices, a very bad one." Describing the way that the caciques and *principales* took the smoke using a hollow stick with two prongs for the nostrils, he stressed the fact that no matter the status of the participant, the drug seemed to cause the smoker to fall to the ground in a sort of stupor.[74] Oviedo remarked that the Indians believed that this was not only very healthy, but also a saintly thing. He himself imagined that it was very much like getting drunk, which he noted was frequently part of the ritual of taking tobacco. According to Oviedo, all of the blacks living in Hispañola and many of the "Christians" had taken up this habit as well, the Christians to alleviate the pains from *bubos* (syphilis), and blacks to alleviate "weariness."[75] Oviedo described many other new things such as hammocks, which he described as the "best type of bed possible for men of war,"[76] as well as natural curiosities such as earthquakes, or that the deer in los Alcázares were small while those in the next valley were large, and fabulous people, such as the

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[71] Gonzalo Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias* (Madrid: Ediciones Atlas, 1959), Acosta, *Natural and Moral History of the Indies*, Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*.

[72] Martínez's history of the Mexicans was almost completely derivative of Acosta's.

[73] His work covered the history, nature and people of the New World, focusing on Santo Domingo and Tierra Firme (Nicaragua) in particular, where he had personal experience. Part one, of the larger compilation, which was published in 1535 and reprinted in 1542 and 1549, and thus readily available, was an expansion of his earlier *De la Natural Historia de las Indias* Both of these works were some of the first descriptions of the plants, animals, and people of the Americas.

[74] Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias*. Vol. 1, Tomo CXVII, 116.

[75] Ibid. Vol. 1, Tomo XCVII, 117.

[76] Ibid. Vol. 1, Tomo XCVII, 117.

chacopati, who never drank water but only a beverage made from the maguey.[77] Oviedo noted that "the causes of these secrets of Nature were hidden, but the effects visible."[78]

Throughout his works, Oviedo compared his own culture with that of the Indians, seeing the Indians in terms of "generations," implying some sort of progression from Adam and Eve to the present. The Indians, according to his way of seeing it, occupied different "generations" along this continuum.[79] Assessing the Indians technological capacities, he praised their historical tradition, the *arieto,* which he described in numerous passages on Hispañola and Nicaragua. "They had," he observed, "a good and gentle way of memorizing the things of the past and antiquities, and this was in their songs and dances."[80] This method, the bureaucrat observed, worked very well so that people were able to cite battles and leaders and things past. He compared it to Roman dances mentioned in Livio, cautioning his readers that this sort of thing was not so savage, and that similar dances were practiced in both Spain and Italy.[81] Likewise in his discussion of healers and priests, he noted that it was not surprising that the art of medicine should have such authority among the Indians, because medicine and mathematics were both frequently used in such a way. Mathematics and astrology had reached the position that "even today it occupies most people, and in the Orient they call it king of kings." Among the Indians, a great knowledge of herbs went along with religious rites, and "their principle doctors are their divine priests and these their religious administer to them their idolatries and nefarious and diabolical ceremonies."[82] Indian medicine, he implied, was tainted by metaphysical malpractice.

Although Oviedo recognized some of the Indians cultural and technological practices, he generally took a dim view of them. Oviedo noted that Ferdinand and Isabella had done all they could to indoctrinate the Indians and make sure that they were treated well, but that government officials and the Indians' own "incapacity and bad

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[77] Ibid. Vol. 1, Tomo CXVII, 181.
[78] Ibid. Vol. 1, Tomo CXVII, 189.
[79] Ibid. vol. 2, Tomo CXVIII, 373.
[80] Oviedo's use of the past tense here reflected the fact that by the time he wrote this, the islands had already lost the majority of their people to slaving and disease.
[81] Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias*. Vol. 1, CXVII, 113.
[82] Ibid. Vol. 1, Tomo CXVII, 113.

inclinations" made this process more difficult.[83] Speaking of the homicide of some "Christians" left by Columbus, Oviedo noted that "[t]hese Christians" had died partly because of their own excesses, having taken local women and other "annoyances" but also, he claimed, because the Indians were "naturally of little prudence, lacking respect for what was to come."[84] The Indians were "naturally" reckless, with little thought for the future. Calling them, "naturally lazy and vicious, melancholic, cowardly, and in general a lying and shiftless people," Oviedo stressed their inclinations to bestial appetites, such as sodomy, worshipping idols, and eating human flesh.[85]

Oviedo lamented the sexual practices of the Indians, which he believed to be "disorganized" and the source of bubos, which was later spread by Spaniards throughout Europe. First, they were given, he claimed, to sodomy. To prove this, he described an ornament of gold, weighing twenty pesos, depicting two men "in that diabolic and nefarious act."[86] The women, he allowed, were faithful to their Indian mates, but gave themselves very easily and promiscuously to the Spaniards. Despite their lack of sexual restraint, Oviedo marveled that the men did not sleep with their mothers, sisters, or daughters, "which is surprising in a people so inclined and disorganized in the vice of the flesh."[87] The Indians, he proposed, were very given to sex, and their promiscuity plagued the Spanish. "These Christians," Oviedo remarked, "suffered greatly from the *niguas* (an insect that lays eggs in the skin making ulcers) and the cruel pains and passion of the evil of bubos, because the origin of [these things] are the "Indias." Making a play on words, Oviedo declared that "by 'Indias' I mean both the land where so natural is this pain and the 'Indias,' women of these parts, for whose communication passed this plague to some of the first Spaniards that came with the Admiral to discover these lands, because as it is

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[83] Ibid. Vol. 1, Tomo CXVII, 31.

[84] Ibid. Vol. 1. Tomo CXVII, 35.

[85] Hanke argues that Oviedo's description of the Indians represents a trope called the "dirty dog," compiling a sketch from Oviedo's descriptions. Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*.

[86] Fernández de Oviedo y Valdés, *Historia General Y Natural De Las Indias*. Vol. 1, Tomo CXVII, 118.

[87] Ibid. Vol. 1, Tomo XCVII, 121.

a contagious illness, it is very possible."[88] Bubos, he contended was "natural" to the Indies and Indian women.

Oviedo, like most of his contemporaries, understood the conquest in providential terms. Noting scripture, "*In Omnem tram exicit somus eorum, et in fines orbis terraie ver eorum,"* Oviedo argued that the true faith had been forgotten by "these *generations* and the Indians of these parts."[89] He saw the conquest in terms of the salvation of the Indians, who were committing "idolatries and diabolic sacrifices and rites" and other "nefarious crimes and sins." Oviedo heaped special praise on Columbus, arguing that his discoveries brought merit to all of Spain, because in "re-edifying and turning to cultivate in these lands, so far away from Europe, the sacred passion and commandments of God and his Catholic Church," Columbus and the Spaniards would save "so many millions of souls."[90]

Vasco de Quiroga

Like Oviedo, Vasco de Quiroga had witnessed the conquest of Granada, and saw Spanish expansion in terms of a spiritual conquest. Like Oviedo, he began his career in New Spain as a royal functionary, arriving in Mexico City in 1531 to occupy the position of *oidor*. He and several others had been sent to replace the *audiencia* headed by Nuño de Guzmán, which had recently been denounced by Juan de Zumárraga the Bishop of Mexico for their treatment of the Indians. Unlike Oviedo, Quiroga imagined the Indians as the basis of a new utopia, and within a year had initiated the construction of a pueblo-hospital de Santa Fe in the Indian pueblo of Tacubaya near Mexico City. Shortly

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[88] "Padecieron más estos cristianos, primeros pobladores desta isla, mucho trabajo con las niguas, y muy crueles dolores e pasión del mal de as bubas, porque el origen de ellas son las Indias. E digo bien las Indias, así por la tierra donde tan natural es esta dolencia, como por las indias mujeres destas partes, por cuya comunicación pasó esta plaga a algunos de los primeros españoles que con el Almirante vinieron a descubrir estas tierras, porque como es mal contagioso, pudo ser muy posible."
Ibid. Vol. 1, CXVII

[89] Ibid. Vol. 1, Tomo CXVII, 30.

[90] "Y grande fué el mérito que adquirió nuestra nación en ser por españoles buscadas estas provincias; e tantos reinos de gentes perdidas e idolatras, por la industria y en compañía y debajo de la guía del primero almirante don Cristóbal Colom, reedificando y tornando a cultivar en estas tierras, tan apartadas de Europa, la sagrada pasión e mandamientos de Dios y de su Iglesia católica, donde tantos millones de ánimas gozaba, o mejor diciendo, tragaba el infierno; y donde tantas idolatrías e diabólicos sacrificios y ritos, que en reverencia de Satanás se facían muchos siglos había cesasen; y donde tan nefandos crímenes y pecados se ejercitaban, se olvidasen." Ibid. Vol. 1, Tomo CXVII, 30.

thereafter, having been sent to deal with the Tarascan Indians in Michoacan, he established another hospital de Santa Fe de la Laguna near Tzintizuntzan. [91] Quiroga based his hospitals on Thomas More's *Utopia*, funding them with money he collected from the Indians and his own personal funds. The two villages included "the common ownership of property, the integration of large families; the systematic alternation between the urban and the rural people; work for women; the six-hour working day; the liberal distribution of the fruits of the common labor according to the needs of the inhabitants; the forgoing of luxury and of all offices which were not useful; and the election of the judiciary by families."[92] In 1538 Quiroga took up the position of Archbishop of Michoacán, which he occupied until his death in 1565.

Quiroga's writings, which date from the 1530s, were directed at the king, as both a warning and suggestion. Quiroga cautioned the king that the Indians would be "consumed" as those on the islands and *tierra firme* had been, unless they were congregated to live together and given recourse against the "work, tributes, and services" demanded of them.[93] He lamented that many of the Indians "maintain themselves with roots and herbs, and although they want to earn a living with their minds and *bodies*, they do not find where or how to do it, and because of this they sell one another, often for only a handful of corn; others eat mosquitoes and worms and related things, for lack of good industry and *policía*." The bishop argued that this situation was not a result of the natural inclination of the Indians, who were "truly industrious by nature for *all arts* and good workers."[94] Finally, referencing critiques about the legitimacy of the conquest, Quiroga justified Spanish presence based on a "supreme order" and the fact that Christ was the only "true king." He noted that even if Indian rulers had been legitimate, if Spaniards were to indoctrinate the Indians and give them "laws, rules and orders" so that they might

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[91] Serrano Gassant, Paz, "Introducción," Quiroga, *La Utopía En América*, 5-51.

[92] Silvio Zavala, "The American Utopia of the Sixteenth Century," *The Huntington Library Quarterly* 10, no. No. 4 (1947), 347.

[93] Quiroga, *La Utopía En América*, 106.

[94] Emphasis mine. "[S]e mantienen de raices y de yerbas y , aunque quieren ganarlo con los ingenios y con los cuerpos, no hallan a dónde ni tienen arte ni manera para ello, y así, de necesidad, unos a otros se venden: veces hay, por un puño o celemín o chicubí de maíz; y otros hay comen mosquitos y gusanos o otras cosas semejantes, por falta de esta buena industria y policía, siendo en la verdad ingeniosísimos por naturaleza para toda arte y grandes vividores, tanto que no se podría creer." Ibid., 89.

live "like Christians," and not like "barbarian people, tyrannized, rude and savage," it would not be of any harm.[95]

Unlike Oviedo, the utopian bishop saw in the Indians a great potential. Quiroga compared the people of "this land" to good metal, soft wax, and a blank table. These people, he claimed, had not yet been drawn or filled or founded. They were pure potential, and "well disposed, conditioned and of such simplicity" that they were like the people of the Golden Age. Comparing Europe to the "age of iron," Quiroga lamented that the world had lost the saintly pure simplicity of this previous age and gained "the malice that now reigns."[96] Quiroga argued that the docility and obedience of these peoples was hard to imagine if it had not been "experienced," but that once experienced could not be doubted. Like many after him, Quiroga attributed this gentleness not to any cultural adaptation, but to the "different climes and qualities of constellations, the influence of the lands and places and the complexions of the *naturales* (those born in them)."This "New World," he declared, should be understood and ruled as such, not as was the Old.[97]

Quiroga associated the life of the Indians before the arrival of the Spanish with Lucian's *Saturnalia* because in both instances the people hardly had to work for their sustenance. Quiroga imagined the Nature of the New World to be like the Golden Age, "when all things grew without sowing or plowing." The Indians, Quiroga asserted, "contented themselves with fruits and roots that the earth grows and produces without

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[95] "Este es el orden de las cosas; ésta es la jerarquía correcta, suprema ley de quien habla con voz de trueno: que en cualquier parte el inferior este sujeto a su superior y quien contraviene o resiste al poder desagrada a quien puso Dios, orden supremo." Ibid., 113-116.

[96] "[P]ues, por la providencia divina, hay tanto y tan buen metal de gente en esta tierra y tan blanda la cera y tan rasa la tabla y tan buena la vasija en que nada hasta ahora se ha impreso, dibujado ni infundido, sino que me parece que está la materia tan dispuesta y bien condicionada, y de aquella simplicidad y manera en esta gente natural, como dicen que estaba y era aquélla de la edad dorada que tanto alaban los escritores de aquel siglo dorado antiguo, y ahora lloran los de esta edad de hierro nuestra por haberse perdido en ella la santa y buena simplicidad que entonces reinaba, y cobrado la malicia que ahora reina." Ibid., 195.

[97] "Y ésta pienso haber sido la causa e intención del autor, no de menospreciar, que ordenó y compuso el muy buen estado y manera de republica de que se sacó la de mi parecer en ponerla, contarla y afirmarla por cosa vista y hecha y experimentada, y porque, si esto una vez no se experimentase, parece que no se podría creer, pero quien lo tiene experimentado ninguna duda pone en ello. Esto hacen y pueden muy bien hacer las diferencias y climas y calidades y constelaciones, influencias de las tierras y sitios y complexiones de los naturales de ellas, y ser éste, como es en la verdad, con gran causa y razón, y como por divina inspiración, llamado Nuevo Mundo, como en la verdad en todo y por todo lo es, y por tal debe ser tenido para ser bien entendido, gobernado y ordenado, no a la manera y forma del nuestro…" Ibid., 196.

tilling….. or wanting nor demanding nor fatiguing themselves for more."[98] Later he refers to Virgil´s *Eclogue IV*, which sings of the return of the Golden Age, relating the Indians to the refrain celebrating *"a new breed of men sent down by heaven."* Mendicants like Quiroga and Motolinia imagined the Indians as natural saints and New Spain as a new Paradise. Indians' meek and languid bodies were perfectly suited to the golden age heralded forth by the conversion of all the nations of earth.

Toribio de Benavente (né Paredes)

Toribio de Benavente, known to posterity as Motolinía, which was the Spanish approximation of the nahuatl for "humble," was one of the original twelve Franciscans to arrive in New Spain. A zealous evangelizer, he claimed to have baptized around 400,000 Indians during his forty-four years in New Spain, Guatemala, and Honduras. Motolinía's *Historia de los indios de la Nueva España* was not published until the nineteenth century, but it circulated in manuscript form and was used by both Mendieta and Torquemada. Like the writing of Quiroga and Oviedo, Motolinía's *Historia* described the nature of New Spain and its peoples, building tropes that would carry on throughout the next century.

Like Oviedo, Motolinía compared Spanish and Indian knowledge of medicine. The friar compared their medical knowledge favorably, noting that if nothing else, the Indian doctors did not leave their patients poor and bereft the way that Spanish doctors did.[99] He thought that Indian doctors had a solid understanding of the application of various herbs and medicines "which sufficed" for the Indians. Recognizing the importance of "experience" to an Indian doctor's ability to cure, Motolinía noted that there were some doctors "with so much experience" that they were able to cure ailments which Spaniards had been unable to remedy.[100]

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[98] Ibid., 214.

[99] Motolinía, *Historia De Los Indios De La Nueva España*, 79.

[100] "Tienen sus medicos, de los naturales experimentados, que saben aplicar muchas yerbas y medicinas, que para ellos basta: y hay algunos de ellos de tanta experiencia, que muchas enfermedades viejas y graves, que han padecido Españoles largos días sin hallar remedio, estos indios los han sanado."Ibid., 131.

Like Quiroga, Motolinía stressed the abundance of New Spain's natural landscape. "Fertile and abundant," Motolinía marveled at the fact that in many places harvest two or three times a year.[101] Describing part of the process of the "Columbian exchange" described by Alfred Crosby, Motolinía noted that the friars had planted all the fruit trees from Spain in the new land, "so that there were many good gardens and should be more, because the Spanish seeing that the land gives back a hundred for every one planted are much given to planting and eating good fruit and esteemed trees."[102] However, like many Spaniards after him, Motolinía found the fruit in New Spain to lack the "perfection" of the fruit in their native land.[103]

Motolinía had diverse opinions of the Indians, seeing them as both "meek" and "bellicose. On the one hand, the friar, revered for his own tattered clothes and humbleness, argued that the Indians did not have as much hindrance from reaching heaven as the Spanish because they lead very Spartan lives. "With their humble cloak they lie down to sleep, and wake harnessed to serve God." According to Motolinía the Indians were "patient, exceedingly long suffering, meek like sheep" and slow to take offence.[104]

The Indians, he argued, were meek, unlike Spaniards. Using the term "generation" that we saw in Oviedo, Motolinia claimed that the Indians were "strange to our condition, because *we Spaniards* have big and lively hearts like fire, and these Indians and all the animals of this land are naturally very meek." According to the humble friar, their meekness and humility made them careless about giving thanks, but it also made them "able for whatever virtue, and most able for any office or art, and of great memory and

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[101] "La tierra es muy fértil y abundante, produce cualquiera cosa que en ella se siembra, y en muchos lugares da dos o tres cosechas al año." Ibid., 360.

[102] "[Y] aca los mismos frailes han plantado caso todos los árboles de fruta, y persuadieron a los Españoles para que plantasen ellos también: y enseñaron a muchos a ingerir, lo cual ha sido causa que hay hoy muchas y muy buenas huertas, y ha de haber muchas más; porque los Españoles visto que la tierra produce ciento por uno de lo que en ella plantan, danse mucho a plantar e ingerir buenas frutas y árboles de estima." Ibid., 189. Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492*, 30th Anniversary Edition ed. (Praeger, 2003).

[103] "Hay muchas especies de frutos semejantes en la apariencia a los de España, aunque al gustarlos no tienen aquella perfección." Motolinía, *Historia De Los Indios De La Nueva España*.

[104] Ibid., 78.

understanding."[105] Indians were unappreciative and, like children, were capable of learning any trade, while Spaniards had "hearts like fire."

On the other hand, Motolinía thought that the Indians were bellicose and "well disposed people." "In aspect," he noted, that the "people of this land" were "well disposed, taller than short," and the color of wheat, "like *pardos* with good features and faces."[106] Comparing the Indians to *pardos* (dark mulattos), Motolinía referenced a people that his Spanish audience might imagine, but with "good features and faces" as opposed to Huarte's "ugly" Ethiopians with their "flat noses and big lips." Referencing Ptolemy's division of the world in which he associated left-handedness with the feminine peoples of the "west," Motolinia noted that the Indians were mostly right-handed, "robust and indefatigable."[107] Although, they were also the sparsest people he knew, bellicose, and fearless in the face of death.

These people, like many people on the fringes of Ptolemy's world, had deviant appetites. "All of [the people] of this province of New Spain," Motolinía remarked, ate "human flesh," which they held in high esteem above all other foods. Their taste for this *alimento* was such, he claimed, that they would often start wars "and put their lives in danger, just to kill and eat someone." They were also "sodomites" and they "drank

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[105] "Lo que de esta generación se puede decir es, que son muy extraños de nuestra condición, porque los Españoles tenemos un corazón grande y vivo como fuego, y estos Indios y todas las animalias de esta tierra naturalmente son mansos, y por su encogimiento y condición descuidados en agradecer, aunque muy bien sienten los beneficios, y como no son tan presos a nuestra condición son penosos a algunos Españoles; pero hábiles para cualquiera virtud, y habilísimos para todo oficio y arte, y de gran memoria y buen entendimiento." Ibid., 114.

[106] "La gente de esta tierra es bien dispuesta: antes alta que baja. Todos son de color trigueño, como pardos de buenas facciones y gesto; son por la mayor parte muy diestros, robustos y infatigables, y al mismo tiempo la gente más parca que se conoce. Son muy belicosos y con la mayor resolución se exponen a la muerte." Ibid., 362.

[107] Writing in Egypt, Ptolemy described the peoples of the temperate zone between the summer tropic and the Bears, making the following distinction concerning right and left handedness. "Through this affinity the men themselves are characterized by an activity of the soul which is sagacious, investigative, and fitted for pursuing the sciences specifically called mathematical. Of them, again, the eastern group are more masculine, vigorous of soul, and frank in all things, because One would reasonably assume that the orient partakes of the nature of the sun. This region therefore is diurnal, masculine, and right-handed, even as we -- observe that among the animals too their right-hand parts are better fitted for strength and vigour. Those to the west are more feminine, softer of soul, and secretive, because this region, again, is lunar, for it is always in the west that the moon emerges and makes its appearance after conjunction. For this reason it appears to be a nocturnal clime, feminine, and, in contrast with the orient, lefthanded."Ptolemy, *Tetrabiblios*. Book II, 2, 125.

without measure."[108] Motolinía reserved special disdain for the Indians around Puñuco who were "such sodomites, cowards, and drunks," he said, "that it was impossible to understand the lengths they would go to, to satisfy this vice."[109]

Motolinía was one of the first to depict Spanish "consumption" of the land and the Indians. Describing the area around Papaloapán, he noted that the land around that river was some of the richest in all of New Spain, but that "those who had *repartimiento* there took and carried away such great tributes and "sucked" it so that they left it poorer than any other."[110] Similarly, in describing the excesses of the audiencia under Nuño de Guzman, he argued that the Spanish, with their tributes and excesses were "consuming" the Indians, and that just "as one eats an apple, they were going to swallow the Indians." Applauding the efforts of Juan de Zumárraga, the first bishop of Mexico and Protector of the Indians, Motolinía compared the Indians to an apple, saying that thanks to Zumárraga's efforts Spaniards would not be able "eat the apple without the peel." By standing up to the audiencia, Zumárraga had made the peel bitter, so that the Spanish did not "swallow or finish off the Indians."[111]

Though he criticized Spanish behavior and sought remedy for Spanish excesses, Motolinía still imagined the conquest, the pestilence, and the subjugation of the Indians in providential terms. Describing Cortés's first entrance into Tenochtitlán he explains the confidence of Moctezuma who said "when we want to throw you out of our city and of all the land, it will be in our power, and when we want to kill you, we will kill you." But, according to Motolinía, this confidence was short lived because "God handed the great city over to the hands of [the Spaniards] for the great sins and abominable things that [the

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[108] "Todos los de esta provincia de la Nueva España, y aun los de otras provincias vecinas comen carne humana, y la tienen en más estima que cualquier otro alimento, tanto que muchas veces van a la guerra y ponen sus vidas en peligro, sólo por matar a alguno y comérselo. Son comúnmente sodomitas, como dicho y beben sin medida. Motolinía, *Historia De Los Indios De La Nueva España*, 378.

[109] "En esta provincial de Pánuco los hombres son grandes sodomitas, cobardes, y tan borrachos que son increíbles los medios de que se valen para satisfacer este vicio." Ibid., 371.

[110] "La tierra que este se riega es de la buena y rica que hay en toda la Nueva España, y adonde los Españoles echaron el ojo como a tierra rica; y los que en ella tuvieron repartimiento llevaron y sacaron de ella grandes tributos, y tanto la chuparon que la dejaron más pobre que otra." Ibid., 199.

[111] As we saw in the last chapter Zumárraga and other Franciscans battled with the Oidores of New Spain over the treatment of the Indians in Huexotzingo, allying with native leaders and threatening the oidores with excommunication if they interfered in the pueblo. Ibid., 164.

Aztecs] had committed." [112] For Motolinía, the conquest was evidence of God's approbation for Spanish presence in New Spain.

Comparing the conquest, pestilence, and early colonization process to the ten plagues of Egypt, Motolinía provided an eschatological frame for the events, while simultaneously condoning and condemning the act of the Spanish colonists. Comparing the epidemic of smallpox to the plague of blood, which killed all the fish and created an awful stench, Motolinía described the "rotting" of the corpses in the many waterways of the city, "and just as in this land there had been much cruelty and pouring forth of blood for the demon, angel of Satan, so the second angel poured over it."[113] He related the battle for Mexico to the infestation of frogs, because so many died that the waters of Mexico City were full of "the bloated and waterlogged bodies, who like frogs had their eyes coming out of their heads without eyebrows or eyelids."[114] He related the famine that followed with the swarms of gnats, because like this plague the famine affected all parts of the land and people. Motolinía compared *calpixques*, the Spanish functionaries living in Indian pueblos, to the plague of flies, because like flies these Spaniards made everything rot, and provided a bad example to the Indians. Heavy taxation, he associated to the disease of livestock, because the Indians were treated worse than cattle. He contended that the number of Indians who had died in the mines was so high that it could not be counted and he equated it with the infestation of boils.[115] The seventh Egyptian plague, the plague of thunder and hail, he equated with the building of Mexico City. Estimating that the construction of Mexico occupied more people than the building of Jerusalem, he chided the Spaniards for making the Indians build them great manors as

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[112] Ibid., 186.

[113] "Digamos que esta enfermedad, de la cual desde los menores hasta los mayores murieron casi la mitad, y el agua fue hecha hedionda, cuando muchos morían, que no los pudiendo enterrar hedían por todos partes; y así como en esta tierra había mucha crueldad y derramamiento de sangre humana ofrecida al demonio, ángel de Satanás, bien así el segundo ángel derramó sobre ella su vaso como sobre otra mar amarga fluctuosa, y fue hecho el mar, esto es, esta tierra, como sangre de muerto." Fray Toribio de Motolinía, *El Libro Perdido; Ensayo De Reconstrucción De La Obra Histórica Extraviada De Fray Toribio*, ed. Edmundo O´Gorman (Mexico: Consejo Nacional para la Cultura y las Artes, 1989), 43.

[114] "El agua cenoso de la laguna de México en lugar de peces dio ranas, en la cual andaban los muertos hinchados, sobreaguados, a manera de ranas tienen los ojos salidos de casco, sin cejas ni cobertura, mirando a una parte y a otra, denotando en esto que los pecadores son disolutos sin guarda del corazón, y éstos eran los que en esta plaga murieron, y andaban sus cuerpos así en el agua, como en tierra, hediendo como pescado hediondo, de lo cual muchos enfermaban." Ibid., 46.

[115] Motolinía, *Historia De Los Indios De La Nueva España*, 91.

though they were "caballeros de Salva."[116] The enslaving of the Indians he compared to the plague of locusts, because just as the locusts ate all green things in Egypt, thus taking away all the good in life, depriving a man of his civil liberty took away all that was worth living for. He related the provisioning of the mines to the darkness which obscured all of Egypt, because on the roads to the mines, especially in Oaxaca, one "could scarcely walk, except over dead bodies or over bones; and so numerous were the birds and the crows that came to feast on the dead bodies that they greatly obscured the sun."[117] Finally, Motolinía compared the most famous of the Ten Plagues, the death of the firstborn son, to the divisions within the Spanish bureaucracy.

Motolinía accepted that there were many differences between these two situations,

> "The first is that in only one of those [of Egypt], and it was in the last, was there death; but here, in each one of the plagues there were many deaths. Second, in each case [in Egypt] there remained someone to bemoan the deaths, and here, many houses were totally empty due to the plagues, because everyone died. Thirdly, there all the plagues lasted only a few days, and here, some of them [lasted] for a long time. Those [were sent] by the order of God; [while] most of these [in New Spain resulted] from the cruelty and greed of men, although permitted by God, and from this is the that which the prophet says: *Domine ecce tu iratus es, et nos peccavimus, propterea erravimus.* For the sins of these *naturales* God was moved to ire against them, and he castigated them, as the saying goes, and his rancor and ire made him indignant against them."[118]

Motolinía's metaphor served many ends. He established the culpability of the Indians and God's role in their punishment. He warned the Spanish that their sins would not go unpunished. But more importantly he brought the conquest of Mexico into larger narratives, both biblical and historical, relating the colonization process to the Plagues

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[116] Motolinía, *El Libro Perdido; Ensayo De Reconstrucción De La Obra Histórica Extraviada De Fray Toribio*, 50.

[117] Ibid., 93.

[118] "Bien mirada, diferencias hay y grandes de esas plagas a las de Egipto. Lo primero, que en sola una de las otras, y fue en la postrera, hubo muerte de hombres; pero acá, en cada una de éstas ha habido muchos muertos. Lo segundo, que en cada una casa quedó quien llorase el muerto, y acá, de las plagas ya dichas quedaron muchas casas despobladas, que todos murieron. Lo tercero, allí todas las plagas duraron pocos días, y acá, algunas mucho tiempo. Aquéllas, por mandamiento de Dios: las más de éstas por crueldad y codicia de los hombres, aunque permitiéndolo Dios, y de aquí es lo que el profeta dice: *Domine ecce tu iratus es, et nos peccavimus, propterea erravimus.* (Isías, LXIV) Por los pecados de estos naturales fue Dios movido a ira contra ellos, y los castigó, como dicho es, e su saña e ira se indignó contra ellos. *Misit in eos iram indignationis suae."* Ibid., 53.

and the capital of the Aztecs to the great city of the Pharaohs. This not only gave the conquest meaning, but gave its protagonists a sense of belonging and destiny. This destiny can be summed up in his plea to Emperor Charles V "that Your Majesty place all your efforts in bringing to fulfillment the Fifth Monarchy of Jesus Christ, which is to expand and embrace the whole earth and of which Your Majesty is to be the leader and captain."[119]

The cruel and unpredictable nature of epidemics has always encouraged providential interpretations among all peoples of all nations. For example, when Cortés asked Tlaxcalan rulers to convert to Christianity, they responded that they could not do this as it would anger the gods, who would "destroy this entire province with hunger, pestilence, and war."[120] In Europe the Black Plague was almost unanimously seen as divine punishment and sparked many millenarian visions, such as John of Rupescissa's *Liber secretorum eventuum* (1349), which saw the plague as part of the events leading up to the slaying of the Antichrist that was to occur in 1370, which would bring on a thousand years of earthly blessedness.[121] In Spain, God's will continued to be at the center of discourse over pestilence well into the seventeenth century, despite the fact that "scientific" or "natural" explanations started coming to the fore. Alonso Diez Daza, a Sevillian doctor who favored natural interpretations, explained this phenomenon, saying that because the cause of pestilence was "hidden and unknown," men began to regard and reduce pestilence to a divine cause. He wrote, "And us Christians attributed to it the will of God, who wanted and wants *because of our sins* to change the air, or move other supernatural causes, which would make the effect of Plague quickly, that here there is no need to relate, but only considering such a pestiferous effect fatigues us with terrible fear and puts [upon us] great affliction and agony." [122]

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[119] Kamen, *Empire: How Spain Became a World Power, 1492-1763*, 149.

[120] As quoted in: Crewe, "Between the Sea and the Infidels: The Sixteenth-Century Mexican Mission Enterprise in the Formation of New Spain", 124.

[121] Robert E. Lerner, "The Black Death and Western European Eschatological Mentalities," *The American Historical Review* 86, no. 3 (1981), 542.

[122] "De aquí es, que se atribuye a causa divina y sobrenatural, y nos los Cristianos lo atribuimos a la voluntad de Dios, que quiso, y quiere por nuestros pecados, mudar el aire, o mover otras causas sobrenaturales; las quales hiciesen tal efecto de Peste prestísimo, que aquí no ay que contar, sino solo considerar el tal efecto pestífero, que con terrible miedo nos fatiga, y pone grande aflicción, y congoja, porque como sea una enfermedad, o bestia fiera, que casi repentinamente, y súbito a muchos mate."

Describing the horrible consequences of pestilence, Diez lamented that it caused society to fall apart, as parents abandoned their children and brother forsook brother.[123] In the same vein, Pedro de Azeredo, whose treatise is subtitled *in which persuades that the pestilence and other misfortunes come from the hand of God and not the malice of the Stars as some Astrologers affirm,* argued that it was the worst sort of punishment sent by God, because both hunger and war bred charity and fraternity, but pestilence dissolved even the strongest bonds.[124] For this reason some authors recommended abstinence during a pestilence, and during the Florentine epidemic of 1519 two homosexuals were burned at the stake when Fr. Luis de Castelloli declaimed sodomy as the cause of the epidemic.[125] For this same reason, Bartolomé de Las Casas argued that Christian rulers had the right, and obligation, to punish the non-Christian subjects living in their kingdoms for blasphemy and sodomy. Not only because these acts might contaminate their Christian brethren, but because "the state would be harmed, inasmuch as plague, famine and earthquakes usually occur because of the crimes of blasphemy and sodomy…"[126] Epidemics were too horrible to be seen merely as natural events, and God's wrath provided a way to contextualize the horror they caused.

In the case of the first epidemic, providential interpretation also helped to justify the conquest and the Spanish cause in general, and was the prevailing interpretation of this mortality. When Bernardino Vásquez de Tapia, one of Cortez's soldiers, described the pestilence that wracked Tenochtitlan he noted "[t]he pestilence of measles and small pox was so severe and cruel that more than one-fourth of the Indian people in all the land died." Vásquez saw the mortality in relation to the battle for the city, arguing that it hastened "the end of the fighting because there died a great quantity of men and warriors

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Alonso Diez Daza, *Avisos Y Documentos Para La Preservación Y Cura De La Peste...* (Sevilla: Clemente Hidalgo, en la calle de la Plata, 1599), 1.

[123] Ibid.

[124] Pedro de Azeredo, *Alivio De Pestilencia, E Otros Males Y Reprehensión De Astrología Judiciaria... En Que Se Persuade Que La Pestilencia Y Otros Infortunios...Vienen De La Mano De Dios, Y No De La Malicia De Las Estrellas, Como Afirman Los Astrólogos"* (En casa de Alonso Escrivano, en la calle de la sierpe, 1570), 302.

[125] P. Carreras Panchón, *La Peste Y Los Médicos En La España Del Renacimiento* (Salamanca: 1976), 120.

[126] Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas*, 161.

and many lords and captains and valiant men against whom we would have had to fight and deal with as enemies, and miraculously Our Lord killed them and removed them from before us."[127] Not surprisingly, Spaniards saw the mortality as a sign of heavenly vindication for the conquest.

The epidemic of 1546, however, did not fit this paradigm. After this epidemic, New Spain was at a standstill; failure to plant crops and the drought of 1550 resulted in food shortages.[128] The *cocolixtle* (great dying) of 1545-48 devastated the native population "without touching" the Spanish population and Spaniards were at a loss to explain it. Why, they wondered did God punish the Indians after they had become Christians? One answer was offered by Augustinian chronicler Juan de Girjalva. Girjalva thought that the answer lay in Augustine's treatment of Rome after Christianity. Noting that "many Romans complained that the Empire flourished in the time of their gentility, while there were so many fractures after the reception of the faith," Girjalva concluded that "it seems as though these Indians might be in the same predicament presently." He argued that the Indians were such great Christians, "and Our Lord favored them so much and believed them to be so strong in the faith," that "he wanted to carry them away before malice could stir them up." Grijalva thus turned the argument on its head, arguing that the epidemics were not punishment but salvation, because "God always disposes things for his predestined [people]."[129] Grijalva's Indians died as a reward, before they could be contaminated by the Spanish example.

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[127] as quoted in McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico.", 423.

[128] For more on drought see Enrique Florescano, *Breve Historia De La Sequía En México* (Conacult, 2000).

[129] "Muchos han discurrido en esta materia: y la concluyó ya nuestro Padre San Agustín en los libros de la Ciudad de Dios, que tiene éste por su principal argumento. Quejáronse algunos romanos cómo floreció tanto el imperio en su gentilidad y padeció tantas jacturas después que recibió el bautismo: y parece que pudieran tener la misma turbación estos indios en la ocasión presente, acodándose de su opulencia, de sus victorias y de sus crecimientos en tiempo de su gentilidad, y que tan presto se vieron acabados luego que recibieron el bautismo. Poco trabajaron en esto los ministros porque, aunque el argumento es fuerte y el enemigo no dormía, los indios estaban muy grandes cristianos, y Nuestro Señor los favorecía tanto y los tenía tan firmes en la fé […] pero aquel Señor que los quería llevar, antes que la malicia los turbase, Ése los confirmaba en la fe: cierto, efecto (a todo lo que yo alcanzo) de su predestinación. Bendito sea y alabado siempre aquel Señor que lo dispone todo para bien de sus predestinados." Juan de Grijalva, *Crónica De La Orden De N. P. S. Agustín En Las Provinces De La Nueva España* (Méxcio: Porrúa, 1985 (1624)). Bk. 2, Ch. 3, 152-153

Girjalva's argument highlights the insecurity occasioned by the epidemic of 1546. The Indians, once numberless, were now becoming fewer, and God's vengeance no longer seemed like a plausible explanation. Conversion remained the primary justification for Spanish belonging in the kingdom, but the mortality of the Indians threatened that platform, calling into question the entire Imperial project. Motolinía's Fifth Monarchy required living souls, not dead saints.

Conclusion

Describing the New World for their audiences on the other side of the Atlantic, these friars and officials compared their bodies, habits, and technology with those of the Indians, but they understood their own presence primarily in providential terms. While Díaz de Castillo referred to the victories of Castilians, Oviedo referred to "Christian" rather than Spaniard indicates Spanish identification in this era. Spanish belonging depended on this distinction and it colored the way they saw Indian bodies. Yet at the same time, Motolinía and Grijalva began imaging "Spaniards," whom they saw in contrast to the Indians and the nature of New Spain, "consuming" them both.

These tropes incorporated Hippo-Galenic ideas and stereotypes about the body and the land, infantilizing the Indians and encarnalizing the Spanish aggression but they also incorporated Spanish hopes for a new millennium. Spaniards were fiery, while Indians were cold, wet, and imprintable, like children, or soft wax, ready to receive the knowledge of the true faith. This trope, which I call the "potential Indian," understood the Indians in terms of their place on some sort of continuum, like the "generations" mentioned by both Oviedo and Motolinía. Just as Huarte's phlegmatic "esteemed more to be satiated with sleep than all the lordships of world," the Indians according to Motolinía and Quiroga had no desire for wealth or ambition to rule. They were content with their lot, humble as it was, and did not seek vain accomplishments or unnecessary wealth. Just as Barba's Romans had awakened in the Spanish "the true nature of her fatherland" when they brought them knowledge of the "art of war," Quiroga and Motolinía hoped to arouse the natural saintliness of the Indians through the True Faith.

The Indian bodies imagined by these authors were inert and needed to be shaped by a Spanish mold. The flipside of the "potential Indian" is the "lazy Indian," already codified

in the Laws of Burgos which required Indians to work for the Spanish nine months out of the year to "prevent their living in *idleness* and to assure their learning to live and govern themselves like Christians."[130] The "drunken Indian" was an extension of this. Just as the Indians had no natural desire to overcome their idleness, they had no ability to control their vices, such as sodomy and eating human flesh - Spaniards were there to save them from themselves.

By the 1550s the landscape of New Spain had been drastically altered. The epidemics of 1521 and 1546 had reduced the original population by more than half. Land laid fallow, houses empty, and Mexico City had been remade in a Spanish image. During this period Spaniards began to make inroads into the Mexican countryside, especially in the fertile Valley of Mexico, where the *cabildo* of Mexico City began making land grants to Spaniards, but the majority of the land still remained under Indian control.

The epidemic of 1546 had been followed by a shortage of crops, and prices in Mexico City were high. The fabled "abundance" of New Spain was strained. One anonymous author writing in 1552 argued that this was a result of a new imbalance in the land. He estimated that New Spain contained some 50,000 Spaniards, mestizos and blacks "who did not sow or reap anything," as well as more than 100,000 head of cattle, horses and sheep, all of whom "consumed" the efforts of the Indians, whose numbers were dwindling. "So that if twenty or thirty years ago, there was great abundance and low prices, it was because there were many more laborers than consumers, but today it is the reverse."[131]

The mortality of the Indians challenged Spanish belonging, but unlike Chaplain's case, neither "nativeness" nor "Spanishness" was defined in relation to mortality or survival. Indian "meekness" may have predisposed them to saintliness or servitude, but

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[130] As cited in:Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*. p. 25, Author cites: "El Texto de las leyes de Burgos de 1512," *Revista de historia de América* (1938), No. 4, 5-79.

[131] "creo que ay en esta gobernación más de cincuenta mill hombres entre españoles, mestizos y negros y no siembran ni cojen y más de cien mil cavallos y mulas acémilas de silla y carga y los indios con sus coas no pueden mantener a si y a toda esta multitud y si aurá diez i viente y treinta años havía abundancia de mantenimientos y en bajos precios hera porque havía muchos labradores y pocos comedores y ahora es al rrevés." "El Príncipe Filipe y la Nueva Sociedad Novohispana (1548-1558)" by Maria Justina Sarabia Viejo, Purificacíon Pérez Zarandieta, ed, *Filipe Ii Y El Oficio De Rey: La Fragua De Un Imperio* Sociedad Estatal Para La Conmemoración De Los Centenarios De Filipe Ii Y Carlos V. (Madrid: 2001), 367.

not death. Spaniards in this period did not see their survival as a sign of their physical superiority. Where Joyce Chaplain's English colonists imagined a special relationship between their bodies and the land, the continued mortality of the Indians in New Spain initiated a discourse on the "consumption of the Indians" by those charged with evangelization.

Describing Spanish practices as consumptive, friars accused conquistadors, *encomenderos*, and the Spanish system of literally "eating" the Indians in the quest for riches, and they warned the Crown that if something was not done they would disappear entirely. In the 1530s Vasco de Quiroga cautioned the king that it was more than likely that as long as the present conditions in New Spain continued, the Indians would not stop "running out" (*acabando*) and being "consumed," just as they had run out and been consumed on the islands and Tierra Firme.[132] Furthermore, Quiroga warned that if the Indians were to come to an end so would everything else, "because without Indians no one can or could conserve, nor know [how], nor be able to live."[133] The land, according to Quiroga, was useless without the Indians. This discourse understood Indian bodies in relationship to natural resources, which needed to be conserved. The Indians were mediators between the land and the Spanish. Spanish belonging rested on the conversion of Indian souls, but conversion rested on the preservation of Indian bodies.

[132] Quiroga, *La Utopía En América*, 106.
[133] Ibid., 124.

Chapter 3. Understanding the Laws of Nature: The Spanish Civilizing Mission and the Second Generation

Thirty three years aft the conquest, Francisco Cervantes de Salazar, a professor of rhetoric and student of theology at the Royal and Pontifical University of Mexico, published an ode to Mexico City in Latin.[1] His small book described *Life in the imperial and loyal city of Mexico in New Spain, and the Royal Pontifical University of Mexico.*[2] Cervantes' portrait of the city captures the essence of this moment in New Spain and the way the way that Spaniards interacted with the nature and people of the new land.

The work begins with a dialogue concerning the University, "the molding place of youth." Referencing Spain's imperative in the New World, Mesa a Spanish resident, boasted the very best teachers, who deserved great honors for "the reason that by the brilliance of their wisdom they are the first to free the New World from the cloud of ignorance with which it was obscured, and to confirm the Indians in the faith and worship of God, so that an ever stronger integrity is transmitted to posterity." Despite this weighty contribution, Mesa assured Gutierrez that considering the high prices in the kingdom, where "things you buy in Spain for a copper coin, three pence or four pence, you will not find on sale here even for two silver coins," the salary at the University was insufficient (tale as old as time).[3]

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[1] Published by Juan Pablos an agent of Juan Cromberger who set up shop in Mexico City in 1542. "Introduction" Francisco Cervantes de Salazar, *Life in the Imperial and Loyal City of Mexico in New Spain, and the Royal and Pontifical University of Mexico*, ed. Minnie Lee Barrett Shepard, trans. Carlos Eduardo Castañeda (Austin: Univ. of Texas Press, 1954), 15.

[2] Cervantes had arrived sometime in 1550 or 1551 from Spain where he had taught at the University of Osuna. "Introduction" by Carlos E. Castañeda Ibid., 6.

[3] Ibid., 27.

Describing the city, Cervantes' characters celebrated the various "modern" features of the metropolis, such as the subterranean channels that carried fresh water from Chapultepec into the city "clear and limpid."[4] They acclaimed the wideness and straightness of the streets, remarking on the fact that they were paved to prevent them from becoming muddy during inclement weather. Although Cervantes had lived in Mexico for several years, he fell back on his European understanding of seasons (or that of his intended audience) and seasonal rainfall, declaring the rainy season, which happens during the European summer in New Spain, to be *hiberno tempore,* "winter weather."[5] The houses, remarked Alfaro, the foreigner, were "appropriate to the wealthiest and noblest citizens" more like fortresses than homes. This, Zuazo declared was on account of the "large hostile population" and the inability to surround the city with walls and towers. They were also built of uniform height, to make them more secure during earthquakes, and so as not to block the sun or wind, which Zuaso remarked, was necessary to drive off the "pestilential vapors" emitted by the lagoon that surrounded the city.[6]

The city that Cervantes' characters describe is bustling with mercantile activity. On their jaunt down Tacuba on the way to the central plaza the three men passed by a street filled with artisans. "On this street" Zuazo relates, lived all the artisans of the city: "carpenters, blacksmiths, locksmiths, weavers, barbers, bakers, painters, stone-cutters, tailors, makers of soldier's shoes, armorers, candle-makers, bow makers, sword culters, biscuit makers, inn-keepers, lathe turners, and others."[7] Cervantes' characters don't discuss the identity of these artisans, but in this period, Indians worked in all of these trades alongside Spanish and Flemish masters, and this artisan street was very likely multi-ethnic in composition.[8] Reaching the central plaza or *zocalo*, Alfaro, the new-

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[4] Ibid., 53.
[5] Ibid., 38.
[6] Ibid., 39,
[7] Ibid., 40.
[8] Just a few years later the Indians of Mexico City sent a letter to the king entitled "Memoriales of the Natives are Submitted to the King" in which they complained about the personal service demanded by the Spanish and the practice of underpaying Indian artisans. The document asks that Spaniards should have to pay laborers such as carpenters, "al peon." They argued that bricklayers and carpenters should be paid what they earn daily (which is three tomínes) and that laborers be paid a tomín. Other artisans such as tailors, shoemakers, ironworkers, painters, candlestick makers, seamstresses, and others, they asserted,

comer exclaimed that he did not think that its equal could be found "in either hemisphere."

At the Indian market, the great diversity of products surprised the new-comer, Zamora, who noted that "the nature, the productive quality, of the land is as diverse as the characters and tongues of men." Among these products Cervantes' protagonists list: *guavas*, *mameyes*, *camotes*, *gilotes*, *xocotes*, tunas, *atole*, *chía*, and *zotol*. Zuazo also described many medicaments, such as a liquid called *ogitl*, which Indians used against the cold and itch and mud called *zoquitl* which killed lice and dyed the hair dark. He claimed that these medicaments were "unknown to Hippocrates, Avicenna, Dioscorides, and Galen." Describing a veritable pharmacopeia of new medicines, he noted that the vendors had in their earthenware jars "seeds of various virtues, such as chía and *guahtili* and a thousand kinds of herbs and roots." Describing the uses for various herbs he noted that "*Iztacpatli* purges phlegm; *tlalcacaguatl* frees one from fever; *culuzizicaztli* relieves head catarrh; *ololiuhqui* cures ulcers and hidden wounds." Finally, Cervantes' tour guide Zuazo discussed a root "that *we call* Michoacán," which Indians and Spaniards alike had "found so beneficial for ridding one of humors that they use it oftener and to better advantage than rhubarb, scammony, and cassia pulp." This root, Cervantes declared, was called by doctors "the blessed medicine."[9]

Cervantes' characters noted and name the noble families in Mexico City and the mixture of people, Indian and Spanish living there.[10] In particular they discussed the great crowds of Indians which came to hear Bustamante deliver sermons, and the colleges of San Juan de Letran and the Colegio de Niñas for the mestizo children of Spanish fathers and Indian mothers. These institutions, Zuazo declared, kept the young men from being led into evil, and prepared the girls for Christian marriages.[11] Likewise, Zamora praised the great Indigenous scholar Antonio Valeriano, who taught at the college of

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should be paid according to their usual salary if they were employed by the Spaniards in these professions. Alonso de la Veracruz, *The Writings of Alonso De Veracruz*, trans. Ernest J. Burrus (Rome : Jesuit Historical Institute, St. Louis, Mo. St. Louis University, 1967). Volume V "Spanish Writings: II, 295.

[9] Emphasis mine. Cervantes de Salazar, *Life in the Imperial and Loyal City of Mexico in New Spain, and the Royal and Pontifical University of Mexico*. 58-60.

[10] Mendoza, Zúñiga, Altamirano, Estrada, Avalos, Sosa, Alvarado, Sayavedra, Ávila, Benavides, Castilla, Villafañes (50) Cervantes, Aguilar, Villanueva, Andrade, Jaramillo, Castañeda, Juárez, and many others. Ibid., 50, 55.

[11] Ibid., 55-56.

Santa Cruz at Tlatelolco, a college for noble Indian youths, for being "in no respect inferior to our own grammarians."[12] The protagonists even visited one of the four Indian pueblos that surrounded the city. Dismounting because the horses could not go in amongst the huts of the Indians, the new-comer, Zamora, noted that they were all disorganized. To which Zuazo replied: "[s]uch has always been their custom."[13]

As the men journeyed from the city to Chapultapec along the aqueduct, they remarked at the ingenuity of the channel and the beauty of the countryside around them. However, Cervantes' real purpose was to highlight an inscription, written on the gate at the source of the spring: "This grove, with its handsome building and charming setting for the pleasure of the people, Don Luis de Velasco, Viceroy of this province, dedicates to his Majesty, Caesar."[14] Zuazo noted that the inscription was written by one Cervantes de Salazar (the author), a professor at the university who made sure the "the Mexican youth go out [from the university] well trained and eloquent, that our illustrious province may not continue in obscurity for lack of writers, of which there has been a dearth up to now."[15]

The land described by Cervantes' characters is bountiful and rich, producing "indiscriminately" manifold harvests year round, although, Zuazo noted that much of it lay untilled and fallow. Indeed, Zuazo contended that the New Spain should be compared to Cicero's description of Asia for "it easily excels all other lands in the fertility of its fields, the variety of its products, the extent of its grazing, and in the multitude of things for export."[16] Likewise, remarking on the view from Chapultepec, Alfaro exclaimed, "O immortal God! What a spectacle is displayed from here! How beautiful, how pleasing to eyes and mind, how delightful in variety! I should dare assert on excellent reasoning that both worlds have been joined and encompassed in this place; and the term *microcosmos* that the Greeks employ for man, that is, a small universe, can likewise be said of the City of Mexico."

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[12] Ibid., 62.
[13] Ibid., 56.
[14] Ibid., 71.
[15] Ibid., 71.
[16] Ibid., 78.

Cervantes' narrative captures the city and its inhabitants at the beginning of the second generation of Spanish settlement. The city, a "microcosm of two worlds," already transformed from its pre-Columbian days, was surrounded by Spanish livestock, and filled with magnificent homes, monasteries, schools and hospitals. Public works projects, spearheaded by Luis de Velasco, had improved the existing irrigation system, providing the city with fresh water, and "a charming setting for the people," and institutions existed to train the various youths of the city in the Spanish mold. Yet, it was still an Indian city, with Indian markets, residents, products, modes of transportation and the Indians' "disorganized" huts.

Cervantes' Mexico had benefitted from the arrival of the Spaniards, whom Cervantes equates with the Romans. The Indians, Zuazo declared "were transformed from their former great misery to their present happiness, and from their previous slavery to true liberty! O Emperor Caesar, also a thousand times fortunate, in whose age and under whose auspices a new world before undiscovered, one that produced obedience to false gods in a countless multitude of superior men and caused so great destruction and carnage, was subdued and converted to Christianity." Referencing Spanish justifications for the conquest, Cervantes suggests that the Indians, under Spanish tutelage, had reached a better place, just as Cervantes' "Mexican" students at the university would benefit under his guidance.

This chapter examines the second generation of Spanish presence in New Spain and the imposition of a Spanish mold. During the first generation, Spaniards began the process of appropriation that would eventually make this land their own. As we saw with Oviedo and Motolinía, Spaniards began to adopt native products, such as cacao and tobacco, fitting them into Hippo-Galenic classifications. This adoption is evidenced in Zauzo's extensive list of medicines and his indication of the root, "which *we call* Mechoacan." Likewise the transformation of the city, which Motolinía had compared to the Egyptian plague of thunder and lightning, and the surrounding countryside resound in Cervantes' description of the city as a "microcosm of two worlds." Finally, Cervantes' use of the term "Mexican" to describe his "Spanish" students at the University, suggests an association with the city on the part of the local Spanish population. During the

second generation Spaniards would continue this process, appropriating native knowledge, and imposing form on the "disorganized" Indians.

From the moment of first contact with the peoples of the New World, Spaniards assumed that they were both culturally and technologically superior to the Indians, but this did not preclude a certain admiration for Indian natural knowledge and civilization. During the first two generations of colonization, Spaniards relied on Indian commodities, technology, and knowledge, without which, according to Quiroga, the Spanish would not "know [how], nor be able to live." Embedded in the Franciscan's warning is a tacit acknowledgment of the technological, or cultural, ability of the Indians. Though they judged the Indians to be culturally inferior, they recognized that the Indians understood the land in a way that Spaniards did not. While the Spanish civilizing mission attempted to impose a Spanish form over the Indians and the land of New Spain, it often relied on this knowledge and pre-Columbian structures.

As Anthony Pagden has demonstrated, Spaniards believed that they understood the laws of nature better than the Indians, and as such had an obligation to impose their superior understanding and order on them. Looking at debates taking place mostly in Spain, Pagden has traced the evolution of Spanish justifications for the domination of the Indians. He argues that Spanish jurists, clerics and intellectuals combined classical *topoi*, such as the "natural slave," with new ethno-historical ideas about the process of "civilization" and that this construction informed the first articulation of a theory of comparative ethnography.[17]

Pagden contends that as the papal donation began to lose credence internationally, Spaniards, such as Francisco de Vitoria, a Spanish jurist, looked to classical justifications for slavery. Modifying Aristotle's argument about the "natural slave," Vitoria concluded that while the Indians had the possession of reason, their *barbarous education* left "natural man" in a state where he could not understand properly the laws of nature.[18] This argument essentially hinged Spanish belonging in the New World on the civilization of the Indians. For as Vitoria argued, "only through training his mind to the point where he

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[17] Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*.

[18] Emphasis mine. Vitoria, for instance, thought that cannibalism was a grave misunderstanding of category, that demonstrated that the Indians had no understanding of the laws of nature.

would be able to interpret correctly the real world of nature in which he lived, would the Indian ever acquire an understanding of the mysteries of the Christian faith."[19] In order to reach their *telos*, Christianity, Indians needed to learn how to read the book of nature.

The first half of this chapter examines these international debates in relation to Spanish belonging in New Spain, arguing that ideas concerning technological superiority came to the fore during this period precisely because it was a period of intense empire building. While the evangelization of the Indians was never replaced entirely by a civilizing discourse, and indeed the two went very much hand, Spaniards increasingly began to see their place in New Spain in relation to their abilities to understand and order nature, and they based their belonging on a civilizing mission. Teaching the Indians to live properly involved the spatial and political reorganization of the land and people, and the cultivation and extraction of natural resources, projects which fit in to the ambitions of empire.

The second half of this chapter examines the way that Spaniards imagined the land and its effects on "native" and "Spanish" populations, focusing on the scientific works and projects of the second generation. By this generation, "Spaniard" became the most common designation used to describe both peninsular residents and their native born progeny. At the same time, the term *naturales*, came to be used alternately with Indian. The scientific projects of the second generation centered on the exportation of knowledge and products for the glory and prosperity of Spain. Aimed primarily at the metropole, these works filtered local knowledge through a Spanish lens, assuming the same type of cultural chauvinism that bolstered the Spanish civilizing mission. Like the geographical reorganization of the Indians, they imposed a Spanish form over native content, but they still depended on native knowledge, production and labor. For, although Spaniards believed that they had a privileged ability to understand "the laws of nature," they also recognized local knowledge and organization, such that native knowledge and practice mediated the form imposed by Spanish ideas.

Looking at Spanish perceptions of technology and technological superiority in a broad sense, this chapter highlights the importance of habits to Spanish perceptions of

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[19] Ibid., 103

both "Spanishness" and "nativeness." As Michael Adas points out, before the Enlightenment and the ascendancy of science and technology, which thereafter became the bar by which Europeans took the "measure of man," social organization was one tool used by Europeans to assess and classify the "native" peoples they encountered.[20] Technology like the compass, water mills, mining and smelting techniques, and crop rotation put Europe ahead of other societies. But the period from 1450 to 1700 is considered an era of "minor overall stagnation" in technological development, and the "sciences" as such had yet to be truly delineated and still included subjects such as ethics, grammar and logic. As Adas argues, "the writers who provided the earliest assessments of non Western learning had neither a rigid sense of what qualified as scientific knowledge as a basis for judgments about other peoples' accomplishments in this realm, nor the conviction that moral philosophy and rhetoric- subjects in which the Chinese and Indians excelled- ought to be excluded in evaluating scientific achievement."[21] For early modern Spaniards, habits constituted and reflected knowledge of the natural world. This type of knowledge was as quotidian as it was specialized. The daily manipulation of the material world reflected a deeper understanding of nature's secrets, and Spaniards had a very mixed idea about Indians' abilities to understand the "laws of nature."

I: The Spanish Civilizing Mission

On April 16, 1550 Charles V ordered the conquests in the Americas to halt during the convocation of a special body to determine the justice of the conquests. As Lewis Hanke has pointed out, this unusual order and the ensuing debates suggest both a strong desire, among Spanish intellectuals and leaders, for justice and the centrality of Aristotle to Spanish ideas about civilization, rights, and the Indians. The debate featured Juan Gines de Sepúlveda, a renown jurists, and the famous Bishop of Michoacán, Bartolomé de Las Casas, who was back in Spain to defend the New Laws. Las Casas, inflamed by the circulation of Sepúlveda's pro-conquest Sepúlveda's manuscript *Democrates Alter De Justis Belli causis apud indos* (1547) had composed his own *Apologia,* and lobbied to

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[20] Adas, *Machines as the Measure of Men: Science, Technology and Ideologies of Western Domination*, 65.

[21] Ibid., 32.

restrict the publication of Sepúlveda's works. At the order of the Crown the two convened in Valladolid, and there in front of twelve judges presented their arguments for and against the licit conquest of the Americas. [22] Historians have most often studied this debate in terms of how it shaped policy towards the native peoples of America. However, when viewed through the lens of scientific culture and technology they get to the heart of Spanish ideas about nature, civilization and Spanish belonging in the New World.

Sepúlveda argued that the conquest of the Americas and the domination of the Indians were justified for three reasons. First, he based rights of conquest on an Aristotelian understanding of natural law. Contending that just as in nature the more perfect ruled over the less perfect, he argued that the Spanish had a natural right to rule over the Indians because of their cultural superiority. Second, he argued that Spaniards were obligated to "separate pagans from the crimes and inhuman backwardness, and from idolatry and al impiety, and bring them to the good and humane customs and the true religion." In essence, the Spanish were to "save them, and bring them into knowledge of the truth."[23] Finally, he argued that Spaniards were duty-bound to stop the sacrifices of innocents.

Referring to Aristotle's famous argument, Sepúlveda noted that both philosophers and theologians recognized that some nations should be dominated. These people, might either be "slaves by nature, as are those that are born in certain regions and climes of the world," or they might be subservient "because of the deprivation of [their] customs, or another cause." In either case, Sepúlveda argued that Spanish dominion should be like a domestic arrangement "paternal" and according to the condition of the people, lasting

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[22] Hanke, *The Spanish Struggle for Justice in the Conquest of Spanish America*, 111-132.

[23] "No está en la potestad del Sumo Sacerdote obligar con critianas y evangélicas leyes á los paganos, pero á su oficio pertenece procurar, por todos los medios que no sean muy difíciles, apartar á los paganos de los crímenes é inhumanas torpezas, y de la idolatría y de toda impiedad, y traerlos á buenas y humanas costumbres y á la verdadera religión, lo cual hará con el favor de Dios, que quiere salvar á todos los hombres y traerlos al conocimiento de la verdad." Juan Ginés de García-Pelayo Manuel Sepúlveda, *Tratado Sobre Las Justas Causas De La Guerra Contra Los Indios* (México, Fondo de Cultura Económica, 1941), 125.

until such a time as they might be "made more human and the probity of customs and the Christian religion flowers among them," when they should be treated "more sweetly."[24]

For the most part, Sepúlveda hinged his assertion of Indian barbarity on their "depraved" customs, lumping them together as one people "in whom you will barely find the vestiges of humanity." He charged that the Indians did "not possess any learning at all," or "any monument to their history except for some obscure and vague reminiscences of several things put down in various paintings; nor do they have written laws, but barbarian institutions and customs." He argued that they did not have control over their fleshly appetites and he asked "what temperance or mercy can you expect from men who are committed to all types of intemperance and base frivolity, and [who] eat human flesh?" Referring, no doubt to Quiroga's allusion of the Indians Saturnalic life before the conquest, Sepúlveda warned his audience not to believe that "before the arrival of the Christians they lived in the pacific kingdom of Saturn, which the poets have invented; for, on the contrary, they waged continual and ferocious war upon one another with such fierceness that they did not consider victory at all worthwhile unless they satisfied their monstrous hunger with the flesh of their perfect enemies."[25] Even the Mexicans, whom he admitted were the most civilized of the peoples conquered, did not own personal property, and he charged that the fact that they possessed "not even a house or field that they can leave to their heirs" was a sign of their barbarity. [26]

Las Casas responded to these arguments by clarifying for his audience the terms of civilization according to Aristotelian thought. Barbarians, Las Casas noted, "either because of their evil and wicked character or the barrenness of the region in which they live, are cruel, savage, sotish, stupid, and strangers to reason." They were defined more

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[24] Ibid., 173.

[25] "Compara ahora estas dotes de prudencia, ingenio, magnanimidad, templaza, humanidad y religion, con las que tienen esos hombrecillos en los cuales apenas encontrarás vestigos de humanidad; que no sólo no poseen ciencia alguna, sino que ni siquiera conocen las letras ni conservan ningún monumento de su historia sino cierta obscura y vaga reminiscencia de algunas cosas consignadas en ciertas pinturas, y tampoco tienen leyes escritas, sin instituciones y costumbres bárbaras. Pues si tratamos de las virtudes, qué templanza ni qué mansedumbre vas a esperar de hombres que estaban entregados á todo género de intemperancia y de nefandas liviandades, y comían carne humana? Y no vayas á creer que antes de la llegada de los cristianos vivían en aquel pacifico reino de Saturno que fingieron los poetas, sin que pro el contrario se hacían continua y ferozmente la guerra unos a otros con tanta rabia, que juzgaban de ningún precio la victoria si no saciaban su hambre con las carnes de sus enemigos…" Ibid., 105.

[26] Ibid., 109.

by what they did *not* do than what they did. "They are not," he declared, "governed by law or right, [they] do not cultivate friendships, and have no state or politically organized community. Rather, they are without ruler, laws, and institutions. They do not contract marriage according to any set forms and finally, they do not engage in civilized commerce. They do not buy, they do not sell, the do not hire, they do not lease, they do not make contracts, they do not deposit, they do not borrow, they do not lend. Finally they do not enter into none of the contracts regulated by the law of nations. Indeed, they live spread out and scattered, dwelling in the forests and in the mountains, being content with their mates only, just as do animals, both domestic and wild."[27]

Next, Las Casas ruled out the possibility that nature made the Indians "slaves by nature." The Indians he argued could not be "naturally" barbaric, because such a proposition went against God. For, he reasoned, "the works of nature are the works of the Supreme Intellect who is God." Referring to a quote from Aristotle's *De Caelo et Mundo*, "Nature lavishes greater care on nobler things," Las Casas argued that "it is in accord with divine providence and goodness that nature should always or for the most part produce the best and the perfect, [and] rarely and exceptionally the imperfect and the very bad" and since God loved man above all things it stood to reason that mental deficiency would be very rare.[28] Because, "if we believe that such a huge part of mankind is barbaric, it would follow that God's design has for the most part been ineffective, with so many thousands of men deprived of the natural light that is common to all peoples."[29] Thus, Las Casas claimed, that it is impossible to find an entire people that are "slow witted, moronic, foolish, or stupid, or even having for the most part sufficient natural knowledge and ability to rule and govern themselves."[30] Referring back to the tri-partite division of the world, Las Casas further argued that if such people were to be found they would be more likely to come from the extreme North and South,

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[27] Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas*, 32.

[28] Ibid., 34.

[29] Ibid., 36.

[30] Ibid., 38.

in the Arctic and Antarctic zones, where the distance from the heat of the sun would diminish the faculty of reason.[31]

He also ruled out the possibility that the Indians were barbaric because of practice or, as Sepúlveda and Vitoria contended, because of their "barbaric education" or "poor customs." He argued that Sepúlveda's premise was lacking, because many of the Indians did have government, "bound together in common fellowship, [they] lived in populous cities in which they wisely administered the affairs of both peace and war justly and equitably, truly governed by laws that at very many points surpass ours, and could have won the admiration of the sages of Athens.."[32] The Indians, he claimed, met all of the requirements for civilization, and could not be justly conquered based on their cultural inferiority.

Next Las Casas countered the argument that the Indians might be subjected because they were guilty of acts such as sodomy, cannibalism, and incest, which went against the "laws of nature."[33] Calling on his own experiences, he noted that on all of the islands he had been the Indians "were completely free of these vices."[34] Likewise, he took on Sepúlveda's claim that conquest was justified because of the idolatry of the Indians. The venerable friar argued that pagans, who were not baptized, were not subjects of Christ, they were only potential subjects. These people might be judged by Christ, but not by the Church or the Crown, because they had no jurisdiction. Baptism, for Las Casas defined the borders of jurisdiction, and the only legitimate rights that either Church or Crown might have outside the borders of their own territories came from the willing submission of vassals and faithful.[35] This submission, Las Casas believed, needed to come from peaceful persuasion and conversion.

This debate highlights the importance of social organization and customs as a measure of technological ability in the early modern Spanish imagination. For Sepúlveda

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[31] Ibid., 340.

[32] Ibid., 43.

[33] Cannibalism and sodomy were considered against the "law of nature" because they were fundamental confusions of category. Humans were not food, and sex naturally took place between members of the opposite sex.

[34] Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas*, 348.

[35] Ibid., 80- 87.

understanding the book of nature implied the ownership of personal property, among other things, and this lack implied barbarity, and a subservient role. The Indians "depraved customs" justified the Spanish conquest and domination. Las Casas, for his part, did not deny the right to dominate "barbarians," who were "wild like animals," he merely argued that the Indians were not barbarians. Referencing the tripartite division of the world, he fit the Indies into the "temperate" middle zone, which produced men capable of self government. The Indians, he claimed, had all the markers of civilized men, and Spain's only legitimate claim was through evangelization.

The debate between Sepúlveda and Las Casas was never settled, the court was adjourned and each party went home claiming victory. Evangelization continued to be the stated basis for Spanish belonging in the New World, but this case illustrates the growing belief among Spaniards that their rights over the Indians stemmed more from their ability to "read the book of nature" than from a privileged position with God. The Indians, now largely baptized, if not fully "Christian," remained uncivilized, and in need of paternal guidance.

Historical Continuum

The process of conquest and colonization encouraged Spaniards to develop a sense of historicity based on an idea of the advancement up a cultural continuum.[36] As we saw in chapter one, Juan Huarte de San Juan took this back to the Fall of Man, when knowledge of nature and the arts and sciences was lost. Great men, Huarte believed, later "re-discovered" these arts, passing them on to future generations. José de Acosta linked this transmission with systems of writing. As Pagden notes, "[f]or a diffusionist such as Acosta, cultural progress depended on the accumulation and transmission of information, and language was therefore the means to the creation of man's ever-expanding knowledge of reality."[37] For a society to truly progress historically it needed writing. Acosta did not see Mexican pictographs or Inca *quipus* as valid systems of writing, but he

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[36] Anthony Pagden sees this primarly in the work of José de Acosta, but it is everywhere evident. Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*.

[37] Ibid., 190.

still thought that it put them above barbarians who lacked any form of writing.[38] At the bottom of the spectrum, were barbarians, like the Chichimecs, who not only lacked written language, but whose spoken language was insufficient; these, he thought, were "savages who are close to beasts and in whom there is hardly any human feeling."[39] Man, Acosta thought, progressed through predictable stages of development and those, like the Indians of the New World, who occupied a lower level, could be used to understand Europe's own barbaric past.

Similarly, Las Casas saw "barbarism" as a stage of civilization that every nation passed through. "[T]his coarseness and almost bestiality," he argued, "lasted as long as it took to be born in each nation, or to come from other parts, some person or people of better understanding or who came to understand more quickly than the others, the utility of building houses, joining together to live, of having laws and obeying those who governed them, of living in an orderly fashion, having occupations, and exercising other things necessary to life."[40] Comparing the Indians resistance to Spanish submission to Spain's own history, as told by Trogus Pompey, Las Casas noted, "[n]or could the Spaniards submit to the yoke of a conquered province until Caesar Augustus, after he had conquered the world, turned his victorious armies against them and organized that barbaric and wild people as a province, once he had led them by law to a more civilized way of life."[41] Spaniards had surmounted their own barbarity under the control of the Romans, and now they were poised to do the same for the Indians.

In New Spain, Spaniards saw themselves as the heirs of the Mexica, who had brought the rudiments of civilization to the "savage" nations that inhabited the former empire. This is clear in Motolinía´s description of the rule of their predecessors the

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[38] He also believed that they could keep accurate historical records.

[39] Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, 164.

[40] As quoted in: Hilda J. Aguirre Beltrán, *La Congregación Civil De Tlacotepec (1604-1606)*, ed. Centro de Investigaciones y Estudios Superiores en Antrolopogía Social (México: Cuadernos de la Cas Chata, 1984). "[E]sta rudeza y grosidad y casi bestialidad duró tanto cuanto se tardó nacer entre cada nación, o en venir de otras partes alguna persona o personas de mejor entendimiento o que cayese más temprano que las otras en el cognocimiento de la utilidad que trae consigo el hacer casas, el ayntarse a vivir juntos, el tener leyes y obedecer a quien los rija, el vivir ordenadamente, usar oficios y ejercitar otras cosas a la vida necesarias"

[41] Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas*, 43.

Mexicans. Motolinía predicated the rule of both the Mexicans and the Spanish on the cultural advances each group offered to the Indians of New Spain, saying "they [the Mexicans] were the lords of this land, as are now and have been the Spanish, because they taught the people of the land." He argued that the "like the Spanish, [the Mexicans] brought many things with them" and "enriched this land with their industry and diligence." Motolinía stressed that the people before lived like "savages," but the Mexicans taught them to dress and build and sow, so that now there are many different occupations in the land. He says, that the Mexicans "were the inventors of them all."[42]

While the Mexicans had "tamed" the Indians, giving them government, agriculture, and a misguided religion, the Spanish sought to bring them "policia" and a Christian lifestyle. Part of this involved imposing Spanish government and law, and part of it involved the reformation of Indian habits and their spatial organization. The congregation of the Indians was the principle method for imposing order.

Congregation

Proponents of congregation stressed the "disorganization" of Indian lifestyles, and a need for *policia*. In a letter to the Council of the Indies Quiroga spelled out what he saw as the Indian problem, arguing that "their way of living is a chaos and confusion, such that there is no one who understands their ways, nor can they be put in order nor in conformity with being good Christians, nor impede their drinking binges, idolatry or the bad rites and customs that they have." Making the connection between "nature" and their cultural habits, he stressed that without a way to "reduce" them to order and concerted pueblos the young men who were educated by the friars would be released back into "this vomit, confusion and danger" and as it is a "natural for things to return to their nature," these young men would return to their drunken idolatrous ways. [43] For this reason he

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[42] Motolinía, *Historia De Los Indios De La Nueva España*, 184

[43] "[Y] así su manera de vivir es un caos y confusión, que no hay quien entienda sus cosas ni maneras, ni pueden ser puestos en orden ni policía de buenos Xpianos, ni estorbarles las borracheras e idolatrías ni otros malos ritos y costumbres que tienen, si no se tuviese manera de los reducir en orden y arte de pueblos muy concertados y ordenados, porque, como viven tan derramados sin orden ni convierto de pueblos sino cada uno donde tiene su pobre pegujalejo de maíz, alrededor de sus casillas, por los campos, donde sin ser vistos ni sentidos pueden idolatrar y se emborrachar y hacer lo que quisieren, como se ha visto y ve cada día por experiencia…..y los muchachos que se han criado y crían en los monasterios

believed that these newly educated youths and their wives should be settled on untilled land in newly formed pueblos.

Congregation was seen as a means of changing the habits and customs of the *naturales* and making them into political men, while bringing them into the colonial economy.[44] Writing in 1553, Luis de León Romano, the *alcalde mayor* of Pueblo and Oaxaca and *proveedor* of Mexico City, noted that with the increase of Spaniards and the general confusion, prices for food had risen to such an extent that *bastimentos* almost could not be found for sale. He lamented that, "the republics of these *naturales* seem to me to be without order or *policía* whatsoever," for this reason and for the "conservation and augmentation of republic" Romano recommended the creation of new *aldeas*, as the kingdom, "does not lack for sites or empty lands or people to populate them."[45]

Writing in the 1570s Pedro Moya de Contreras, then archbishop of Mexico argued that congregation would help the Indians overcome their bad habits and natural inclinations. Moya declared that, "it is clear that the idolatry and drunkenness and the heinous sins that arise from them and great offenses against God, to all of which isolation lends itself, would be avoided. And they would apply themselves better to work and to mechanical tasks, and in fact it would take care of their instruction, government, and progress because they are so miserable, lazy, and of such limited understanding that it is necessary to reward and compel them to do what they ought in the same way as with

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se hubiesen de volver a este vómito, confusión y peligro que dejaron, y a la mala y peligrosa conversación de sus padres, deudos y naturales, como sea cosa natural toda cosa volverse de fácil a su naturaleza, muy ligeramente se pervertirían volviendo se a su natural. " Quiroga, *La Utopía En América*, 63.

[44] As Alejandro Cañeque has pointed out many Spanish jurists thought the same thing about "rustics" living in Spain. Juan de Solórzano Periera thought that just as the Indians should be congregated, so too should the people of Galicia in northwestern Spain. He noted that "it would be the greatest possible service to God and also to His Majesty [because] these barbaric people would become politic and domestic and taught the Christian doctrine, something impossible if they keep living in the way they do." As cited in: Cañeque, *The King'S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*, 196.

[45] "Las repúblicas de estos naturales me parece están sin orden y policía alguna, así en lo que toca a su conversión como en lo que conviene a la conservación y aumento de ellos"……. " ni faltarán sitios ni tierras baldías para ellas ni gente que las pueble" Although he fears that "even if all the naturales of these lands were slaves, as time goes on they would not be sufficient to give us what is necessary." "aunque todos los naturales de esta tierra fuesen esclavos, el tiempo andando no podrán cumplir en darnos lo necesario…" Mahar Menarzadeh, "Medical Practitioners in Early Colonial Mexico" (University of California, 2005), 5.

children."[46] The Indians, like children, needed to be taught how to live, in the simplest terms.

These advocates stressed a relationship between congregation and the advancement up a civilizational continuum. For example in the 1570s, twenty years after the first major wave of congregations, Fray Diego Valadés commended the "reductions" in his *Rhetorica Christiana* saying that, "before the friars congregated the Indians they were dispersed in the mountains and deserts and they reduced them *to live in society*, they taught them customs and modes of living and the business of the family and other domestic pursuits."[47] The dispersal of the Indians was a technological problem, as much as it was a pragmatic one. Spaniards understood this "disorganization" and "dispersal" as symptomatic of barbarity, but they also wanted the Indians grouped together so that it was easier to indoctrinate them, access their labor and appropriate their land.

Policía

As Alejandro Cañeque has pointed out, for the Spanish, civilization involved both conversion and urban living. "Outside of the *polis* is only barbarism, and what characterizes the "barbarian" is his lack of civility (*policía)* and hence humanity, but in sixteenth-century New Spain, the rational man had to be Christian as well as civil or political. One concept cannot be understood without the other, as the "politicization" of the Indian contributes, at the same time, to his Christianization."[48]

Spanish notions of polity, city life, and *civitas* went back to Greek philosophy and Roman law, and were based around the idea of a commonwealth and self government. At their base was the Aristotelian notion of the *polis* as "a union of citizens who gathered together "to live happily" and in accordance with the principles of law and justice." St. Augustine merged the pagan notion of *polis* with Christian ideals by imaging the city as a

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[46] As cited in: Poole, *Pedro Moya De Contreras: Catholic Reform and Royal Power in New Spain, 1571-1591*, 55.

[47] Fray Diego Valadés, *Retórica Cristiana* (México: Fondo de Cultura Económica, 2003 (1579)), 96.

[48] Cañeque, *The King'S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*, 195.

"natural" community, while St. Thomas Aquinas saw it as a "perfect community," and the best instrument for evangelization.[49]

The city was also a key element in Spanish expansion. The identity of the city underwent a transformation during the Reconquista. As Richard Kagan has pointed out, the formation of cities became, in the Reconquista, a means of expanding authority, and the foundation of cities, with municipal councils or *concejos,* formed the front lines of incursion into Muslim areas. The town then, served as the lowest tier of royal government, a means to gain possession of lands, and a way of populating and thus Christianizing those new possessions.[50] This concept was carried into the New Word, where the town became the symbol of *policia*, a complex concept that incorporated all of Spanish notions of what it meant to live a civilized life.

The term *policia* originated from the Greek, *Politeia,* referring to a republic, but included an Aristotelian subordination of the individual to the desires and interests to those of the community. In his seventeenth century dictionary, Sebasitián de Covarruias described it as: "Policía: A polite, civic term. Police council, that which governs the small things of a city, like adornment and cleanliness. It derives from the Greek term, politeia (πολιτεια), *res publica,* meaning polity, the urban, the polite. Also politics, the science and mode of governing a city and a republic."[51]

Civitas included the laws, institutions, customs, and ceremony that governed communal life, but it might also be found in the very architecture of city or town. For this reason the *urbs*, the physical manifestation of *civitas,* was very important to the Spanish conception of what it meant to live in *policia*. The imposition of a spatial plan on indigenous communities, or the wearing of clothes, were just as important to the Spanish notion of *policía* as the establishment of a municipal government.

In New Spain and the rest of Spanish America, this spatial vision included gridiron streets emanating from a central plaza with a church, town hall and prison- "each representing a different yet essential component of *policía* itself."[52] These buildings

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[49] Richard L. Kagan, *Urban Images of the Hispanic World, 1493-1793* (New Haven & London: Yale University Press, 2000), 25.
[50] Ibid., 26.
[51] As cited in Ibid., 29.
[52] Ibid., 33.

embodied what it meant to be civilized, in the same way that the dispersed groupings of Indian dwellings signified "disorder" in the Spanish imagination. The "disorder" was as much an aesthetic judgment as a moral one.

This spatial vision was implemented in three major congregation attempts over the course of the sixteenth century as Indians were moved from their "ancestral" homes to new planned communities that reflected Spanish ideas about order, hierarchy and land use. These human engineering projects were in some way modeled on Quiroga's *hospitals de la Santa Fe*, which he modeled after Moore's *Utopia*. Quiroga erected the two hospitals, one in Mexico 1531 and one in Michoacan in 1533, along utopian guidelines.[53] Quiroga's experiment was very limited in its scope, involving some 700 Indians in each pueblo, and while future congregations did not adopt all of Quiroga's utopian ideas or organizational structure, they did follow the same basic premise: that the congregation of the Indians into settlements to be administered by a magistrate was the best way to indoctrinate the Indians into both the Catholic faith and Spanish polity. [54]

The first wave of congregation took place in the first generation of Spanish occupation. During the 1540s, the religious orders set about "reducing" the Indians of the central Valley into Conventual Congregations. These were carried out wholly under the auspices of the orders, who vied with one another for influence throughout New Spain. This process was put on hold because of the epidemics of 1548-49, but established the first large scale contact between Indian communities and Spanish control.

The congregations carried out during the second generation were marked by increasing state control. After the incredible loss of lives during the 1546 epidemic, Luis de Velasco, the elder, started the first government program of "reduction." This program was still very dependent on the religious orders, which carried out the majority of the 163 congregations accomplished by 1564. Unlike the previous congregations, these communities were put under a *corregidor*, frequently the son of an *encomendero* who had lost his bid to extend the rights of his labor grant. These officials were put in charge of organizing the congregations, collecting tribute, and making sure the Indians did not return to their original locations. On a few occasions Velasco gave this task to Indian

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[53] Aguirre Beltrán, *La Congregación Civil De Tlacotepec (1604-1606)*.
[54] Zavala, "The American Utopia of the Sixteenth Century.", 347.

noblemen, most notably in Puebla-Tlaxcala, which had special privileges due to their help in the conquest of Mexico.[55] As we shall see in the next chapter both *encomenderos* and *corregidores* would frequently be accused of "consuming" rather than protecting the Indians they controlled.

The process of congregation gave the religious considerable influence in the lives of the Indians, and in many areas they were the sole Spanish influence. By the 1590s the Franciscans had more than 200 convents radiating out from around Mexico City into the present day states of Hidalgo, Michoacan, Guanajuato, and Jalisco, while the Dominicans dominated Oaxaca, Chiapas and Guatemala with over 400 friars. The Augustinians were the last order to arrive, but by the end of the century had some 76 new and sumptuous convents throughout Mexico.[56]

Finally, the civil congregations (1593-1606), which will be dealt with extensively in chapter five, represented the first time that the religious orders were not front and center in the congregation of the Indians, now government functionaries took their place. The epidemic of 1576-83 and the periodic pestilence of the 1590s thinned Indian populations, and these reductions "reduced" them to pueblos capable of supporting a cleric. They also affected areas and people who had previously lived outside the ambit of Spanish control because of their "disperse" and remote habitations. These congregations were patterned on the Viceroy Toledo's plan in Peru (1569-1571).[57] The project was paid for by a levy placed on the Indians themselves by Viceroy Velasco II, of four *reales* each, but carried out mostly by the Conde de Monterrey in 1604.[58] I argue that this project represented the apogee of viceregal power in New Spain and the concert between local and royal aims.

All of the congregation movements involved the physical relocation of the Indians into Spanish style polities and the destruction of their previous homes. This new space represented the physical manifestation of order in the Spaniard imagination, and the centrality of Spanish institutions, the church and prison, was fundamental to this order.

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[55] Aguirre Beltrán, *La Congregación Civil De Tlacotepec (1604-1606),* 66.

[56] Samuel Y Edgerton, *Theaters of Conversion: Religious Architecture and the Indian Artisans in Colonial Mexico* (Albuquerque: University of New Mexico Press, 2001), 23.

[57] Howard Francis Cline, "Civil Congregations of the Indians in New Spain, 1598-1606," *The Hispanic American Historical Review* 29, no. No. 3 (1949), 349.

[58] Ibid., 360.

So that when Quiroga wanted to build his cathedral outside of the pueblo of Potzquero, where he had chosen as the seat of the archdiocese of Michoacán, Spanish officials raised a stink.

Spaniards recognized the social divisions within Mexica society as a marker of civilization and sought to reproduce and reinforce this hierarchy in the spatial division of the congregation, placing the homes of the *principales* in the center, along with religious and municipal buildings. At the same time, Spanish appointments eroded pre-Columbian social structures. Alonso de Zorita, and *oidor* in the Mexican *audiencia*, for example, claimed that by the 1560s, the *pipilzintl*, leaders, were "practically paupers" because the *encomenderos* had replaced the "natural leaders" with "*macehuales*" (commoners) who did their bidding.[59]

The process of congregation changed Indians' relationship to the land, ordering it according to the Spanish concept of *policia,* which understood civilization in terms of an urban and civically active life. Spaniards believed that they understood the laws of nature better than the Indians, and that this inferior knowledge was reflected in the "disorder" of Indian lifestyles. To be Christian not only included the acquisition of Spanish tools, such as beds and tables, dress, sexual mores, and civic participation, it implied a drastic reorientation of space, in which the symbols of Spanish power, the church and the crown were front and center.

Yet the new communities organized under the congregations retained many of their pre-conquest features. The *calpulli*, a local system of communal ownership of land remained the basis for the congregations, and each site was chosen for its access to a variety of communal resources, such as forest land and water. In theory pre-Columbian election practices also continued in the selection of local leaders, although Spanish functionaries, *corregidores*, *alcaldes* and other judges were generally assigned by the Viceroy in a complicated system of patronage that comprised the basis for Viceregal power in the kingdoms.[60] Finally, with the exception of the introduction of livestock and the necessity for communal grazing lands, which greatly altered and disturbed the lives of

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[59] "Breve Relación de Alonso de Zorita" Joaquín García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, vol. Vol.3 (México: Salvador Chavez Hayhoe, 1941), 91.

[60] For an excellent discussion of patronage and viceregal power see: Cañeque, *The King´S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*.

native inhabitants, food production and planting practices remained largely the same. Indeed some authors, such as James Lockhart, have argued that Spanish influence was not as intrusive as many have imagined.[61]

II: Scientific Projects

The scientific works and projects of the second generation provide an excellent window into the way that Spaniards understood Indian civilization, technology, and natural practices. These included medical texts, water works, geographical and botanical expeditions and collections, and indigenous productions. Just as Spaniards attempted to order the lives of the Indians in new polities, they attempted to order Indian natural knowledge. Spaniards recognized that Indians' close relationship with the land gave them a special knowledge of it. However, most of these works and projects implied the superiority of Spanish technology and in all of them European knowledge mediated the vernacular. Much of this work was aimed at expansion, trade, and the consolidation of empire. Directed at the Crown, with European audiences in mind, these works assimilated the knowledge of the Americas for the benefit of Spanish audiences, even as they depended on Indian knowledge and labor.

These works also contributed to the identification process started during the first generation. Assessing the nature of the land and its peoples, they incorporated many of the tropes articulated by Oviedo, Quiroga, Motolinía. Reifying ideas about place and body they tried to understand the effects of New Spain's nature on the bodies of both

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[61] Lockhart calls colonial period the "pattern setting period," and says that Clash, displacement and survival is not a good model, what really matters is contact and the degree of contact. He argues that really the Nahua and the Spanish had a lot in common- and that this can be seen in other parts of Spanish America where things did not work as well. He sees three stages for acculturation among the Nahua. In the first phase the Nahua were seeing the Spanish more than listening to them. In this phase they had to come up with new words to describe things but they resorted to using their own language. The second phase started around 1545-50 when they started borrowing Spanish names for things- instead of calling horses deer (maçatl) they began to call them caballo (pronounced cahual-lo), but pronunciation remained Nahua. The third phase starting around 1640, saw the incorporation of verbs- *pasear* being the first popular verb to be introduced, and prepositions- hasta and para. (This adoption of pasear is interesting considering the issue of congregation and the space of the new pueblo, which featured a central zocalo designed precisely with this purpose in mind.) Also pronunciation changed, and Spanish. during this phase there were many more bilingual people. By 1650 Nahuatl had assumed the form it remained until the present, "still itself but with an elaborate set of mechanisms for dealing with the Spanish." James Lockhart, "Encomienda and Hacienda: The Evolution of the Great Estate in the Spanish Indies," *The Hispanic American Historical Review* 49, no. No. 3 (1969), 327-329.

natives and immigrants. Although they often celebrated the natural abundance of New Spain and the Indies, they also thought that it had a deleterious affect on Spanish bodies.

Bernardino de Sahagún, Florentine Codex

Bernardino de Sahagún, a Franciscan friar who arrived in New Spain after the initial optimism over the evangelization had already began to set in, believed that to properly instruct the Indians it was important first to learn Nahautl and second to understand their culture and beliefs. Working at the Colegio de Santa Cruz de Tlatelolco, the Indian college opened under the care of Zumárraga in 1537, Sahagún began compiling native knowledge on various subjects ranging from descriptions of the flora and fauna to a native account of the conquest. Between 1550 and 1577 Sahagún worked with various named and unnamed assistants, Spanish and Indian, compiling a bilingual text, which he finally sent to Spain in 1580. This manuscript, rich with illustrations, was given by King Philip II to his daughter as a gift upon her matrimony to the Florentine Lorenzo el Magnífico, hence the title the *Florentine Codex.*[62]

The *Codex* is a complicated and extensive work that cannot adequately be summarized here. Describing in both illustration and print the animals, birds, fish, herbs, fruits and peoples of New Spain, the work depicts the colony as a "garden full of all kinds of fruitful trees and herbs," "all types of flowers," animals, mines "of all manner of metals and kinds of precious stones."[63] The very abundance of the land was its downfall, producing men who were incapable of controlling their animal selves. Sahagún's compilation presents a complicated picture of native knowledge and abilities. On one hand, the Franciscan was confident that his native accomplices were adequately competent to fill any office, including that of priest, to describe the nature of the colony, and to understand the properties of plants and herbs. On the other, he argued that the Indians, like all natives of the land, were mired in vice and sensuality.

Sahagún's compilation involves both indigenous and European knowledge and presentation. Although the work is meant to present native knowledge, this is mediated

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[62] Alfredo y Josefina García Quintana López Austin, "Introduction," in *Historia General De Las Cosas De Nueva España*, ed. Fray Bernardino de Sahagún (Madrid: Alianza Editorial, 1988), 9.

[63] Sahagún, *Historia General De Las Cosas De La Nueva España* Vol 2, Book 11, 678.

by Spanish framework. As Ellen T. Bairde has pointed out, many of the depictions in the codex present European biases and *topoi*. For example, drawings of pre-conquest auguries were modeled on familiar scenes from European works, such as the Mother and Child, or the Magi bearing gifts. Likewise Bairde argues that the scenes in Book 9, which portray gold workers, more closely resemble sixteenth century ideas about Jerusulem, which was associated in a cosmological way with gold, than any contemporary Mexican scene. Bairde notes that this representation might also be symbolic, symbolizing the "reclamation or revelation of Jeruselem in the New World as witnessed by the conversion of the indigenous people to Christianity ushering in the third Joachimite age and the approaching last days."[64] "The representation of the indigenous past is disconnected from the past itself. The use of the framed, illusionistic, perspectival spaces in which to present indigenous customs, religion, and life breaks with the indigenous past and links it instead with the European, Christian present."[65]

Although much of the *Codex* reflects the responses of his native informants, Sahagún's voice narrates or sums up the various chapters, giving us a glimpse into his assessment of the Indians and the land. Like many of his contemporaries the Franciscan had great respect for the Indians' technical ability. Listing the occupations and arts the Indians mastered, including the mechanical arts, music, rhetoric, logic and theology, Sahagún declared that "there [was] not an art [the Indians] could not understand or master."[66] Likewise, Sahagún praised their former government, noting that children were raised in common in very austere circumstances "in such a way that their spirits and their carnal inclinations did not reign in them." According Sahagún this type of strict control conformed with both natural and moral philosophy and was necessary because "the temperateness and abundance of this land and the stars that reign over her help the human

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[64] Ellen T. Baird, "The Reordering of Space in Sixteenth-Century Mexico: Some Implications of the Grid," in *Painted Books and Indigenous Knowledge in Mesoamerica: Manuscript Studies in Honor of Mary Elizabeth Smith*, ed. Mary Elizabeth Smith (New Orleans: Middle American Research Institute, 2005), 294.

[65] Ibid., 294.

[66] "Todo esto tenemos por experiencia que tienen habilidad para ello, lo deprenden y lo saben, y lo enseñan, y no hay arte ninguna que no tengan habilidad para deprenderla y usarla." Sahagún, *Historia General De Las Cosas De La Nueva España* Vol. 2, Book 10, 627.

nature to be vice ridden and lazy and very given to the sensual vices."[67] The land created sensual people, who needed strict discipline and control. These people once had leaders capable of imposing this sort of form, but now they were left, unable to control their inclinations, to their own devices. Sahagún lamented that it was not surprising that the Indians should fall into such dissipation, seeing that the Spaniards who lived and were born there were "received the bad inclinations [of the land]." Sahagún argued that Spaniards born in New Spain looked like Spaniards, but had different "conditions."[68] According to Sahagún this environmental influence also effected Spaniards who came to the Indies, "unless they were given notice," so that within a few years of inhabitance, "this land makes them other." He thought that these effects accrued from "the climate and the constellations of the land" and contended that it was a great embarrassment for the Spanish, that the Indians had once had the ability to control these natural vices and the effect of the environment, but that Spaniards were finding themselves unequal to the task. Referring perhaps to the two republics, he mourned the fact that in these times "neither fathers nor mothers are able to control their sons and daughters to rid [them] of the vices and sensualities that the land engenders."[69]

Just as Oviedo and Motolinía before him, Sahagún recognized different "generations" among the Indians, each of which corresponded to different levels of civilization. These people, he implied, might need even more care than the Mexicans,

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[67] "Ocupábanlos en muchos ejercicios de noche y de día, y criábanlos en grande austeridad, de manera que los bríos y inclinaciones carnales no tenían señorío en ellos…" "Era esta manera de regir muy conforme a al filosofía natural y moral, porque la templanza y abastanza desta tierra y las constelaciones que en ella reían ayudan mucho a la naturaleza humana para ser viciosa y ociosa y muy dada a los vicios sensuales, y la filosofía moral enseño por experiencia a estos naturales que para vivir moralmente y virtuosamente era necesario el rigor y austeridad y ocupaciones continuas en cosas provechosas a la república." Ibid. Vol. 2, book 10, 627.

[68] "Y no me maracillo tanto de las tachas y dislates de los naturales desta tierra, porque los españoles que en ella habitan, y mucho mas los que ella nacen, cobran estas malas inclinaciones, los que en ella nacen, muy al propio de los indios, en el aspecto parecen españoles, y en las condiciones no los son…" Ibid. Vol 2, Book 10, 629.

[69] "los que son naturales españoles, so no tienen mucho aviso, a pocos años andados de su llegada a esta tierra se hacen otros. Y este pienso que lo hace el clima o constelaciones desta tierra; pero es gran vergüenza nuestra que los indios naturales, cuerdos y sabios, antiguos, supieron dar remedio a los daños que esta tierra imprime en los que ella viven, obviando a las cosas naturales con contrarios ejercicios, y nosotros nos vamos el agua abaxo de nuestras malas inclinaciones; y cierto, se cría una gente, ansí española como india, que es intolerable de regir y pesadísima de salvar. Los padres ni las madres no se pueden apoderar con sus hijos e hijas para apartar de los vicios y sensualidades que esta tierra cría." Ibid. Vol. 2, Book 10, 629.

who had at one time enjoyed *policia*. Among other peoples Sahagún identified three kinds of Chichimecs: los tamime, los otomíes, and los teuchichimecas. The tamimes lived in "caves and cliffs," they were "somewhat republican" and lived among the otomí and the nahuas, these people were known by their bows and arrows (*tami* meant archer) and they paid tribute in game animals. The *teuchichmecas* were the classic "savage" Indians (teuchichimeca meant "wild men" in the Nahuatl). These men lived very healthy, long and faithful lives, marrying only one woman, who did all their cooking so that that the smoke of the fire would not disturb the keen eyesight they needed for as archers. According to the Codex, these people were also great herbalists, who discovered both *péyotl* and *nácatle*, hallucinogenic drugs which they used in their festivals. The Otomí had very polished dress, but they lived in shacks and were "clumsy" and lazy, and although they had crops and fields, they foolishly wasted what they had, living either in great plenty or great necessity, like animals.[70] These biases reflected both the prejudice of the compiler and his native informants, and fit into stereotypes already developing about the chichimecs, a name which would subsequently be given to all "savage" people.

Sahagún's collection underscores the Spanish belief that the Indians had valuable knowledge of the land and its natural attributes. A great part of the Codex describes the plants, animals and medicines of New Spain. The collection and presentation of this knowledge was part of the Spanish project of appropriation. However, as Iris Montero Sobrevilla has demonstrated in her work on hummingbirds, Sahagún may have translated and correlated these descriptions, but he was not entirely in control of their content. Montero notes that the hibernation period of the hummingbird described in the Codex, correlates with the calendrical cycle of the God Huitzilopotchtli, who was associated with both human sacrifice and the maintenance of the sun.[71] Sahagún's inclusion of this dormant period, called by later naturalists who later repeated it "hummingbird torpor," probably reflected his naïveté concerning the relationship between these two things, as

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[70] "Y ansí del que en breve se comía lo que tenía, se decía y por injuria que gastaba su hacienda al uso y manera de los otomites, como si dixeran dél que bien parecía ser animal." Ibid. Vol 2, Book 10, 662.

[71] Iris Montero Sobrevilla, "Lessons from a Sleeping Beauty: Hummingbird Torper and Natural Historical Knowledge in the Early Modern Period," in *International Seminar on the History of the Atlantic World, 1500-1825* (Harvard University: 2009), 8-9.

well as the culture of science in this period, which sought out the many mysterious and marvelous secrets of nature.

Badianus manuscript

Like Sahagún's Codex, the Badianus manuscript was a product of the college of Santa Cruz at Tlatelolco, unlike the Codex, the manuscript represented the work of two Indians, Martin de la Cruz, a native physician who worked at the College of Santa Cruz, and Juanes Badianus, who translated the text into Latin. Nevertheless, I am including it as an example of the appropriation of native knowledge. Although it was compiled by Indian scholars, it was done so within the parameters of Spanish patronage, and was sent to the king, whom the author asked to "recollect that we poor unhappy Indians are inferior to all mortals, and for that reason our poverty and insignificance implanted in us by nature merit your indulgence."[72]

The work, known in English as the Badianus manuscript, is exemplary of the state of natural philosophy in New Spain in the 1550s. The hybridity of the text is suggested by the fact that the author underscored his lack of European "theoretical knowledge." Although most of the remedies seem to represent indigenous cures, remedies, and native nomenclature, the presentation follows European representational practice. This is most notable in the presentation of the plants, which are drawn in isolation from their surroundings, as botanical specimens.

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[72] Martín de la Cruz and Juan Badiano, *The Badianus Manuscript, Codex Barberini, Latin 241, Vatican Library: An Aztec Herbal of 1552*, ed. Emmart Emily Walcott (Baltimore: Johns Hopkins Press, 1940), 206.

Badianus Manuscript
Benson Latin American Collection

Like many Spanish medical works, the manuscript began with the head, moving its way down the body. Although many of the cures seem to have pre-conquest origins, involving Mexican herbs and the frequent incorporation of feces, the names given to the ailments are Latin, alopecia, glaucoma, scrofula, and many of them follow hippo-Galanic constructs. For example de la Cruz recommended that people troubled with eye problems refrain from sexual activity, which is very likely a reference to the idea common in Europe that too much Venus (sex) made men blind and bald.[73] The work presented a sort of sympathetic healing, not dissimilar to the Hippo-Galanic idea of repulsion and attraction. The herbs, *tlahçolpahtli* and *cochizxuihuitl,* for example, were said to "attract interrupted sleep."[74] Likewise the author advised that someone suffering from mental

[73] Sex made the body dry. Alvarez Miraval, *Libro Intitulado La Conservacion De La Salud Del Cuerpo Y Del Alma Para El Buen Regimiento De La Salud, Y Mas Larga Vida De La Alteza Del Serenissimo Principe Don Philippo Nuestro Señor. Y Muy Provechoso Para Todo Genero De Estados..*, 125

[74] Cruz and Badiano, *The Badianus Manuscript, Codex Barberini, Latin 241, Vatican Library: An Aztec Herbal of 1552*, 223.

stupor should drink *cacauaxochitl* (cacao) mixed with *yolloxichitl* to root out the "evil humor lodged in his breast."[75]

As we saw in Cervantes' description of Mexico City's market place, native cures were readily available and increasingly incorporated into Spanish healing practices. The Badianus manuscript presented this knowledge as both useful and marvelous. Bound in velvet and sent to the king, it would have been a valuable "curiosity" for the monarch, in an age when the collection of artifacts from the edges of the world had its own symbolic power.[76]

Water works under Luis de Velasco Senior (Viceroy 1550-64)

At the same time that Spaniards were incorporating native natural knowledge, they also struggled to contend with Indian technology. Cortés's decision to found Mexico City on the ruins of Tenochtitlán, the great Mexican capital, gave the city symbolic strength, but left it vulnerable to the same problems that had plagued Montezuma and his ancestors. The island city occupied an area of roughly five square miles, and was connected to the mainland by three great causeways, one to the north to Tepeaca, one to the south to Coyoacán, and one to the west that connected to Tacuba. This situation meant that water had to be brought into the city via an aqueduct from Chapultepec. It also meant that the city was susceptible to flooding. Three floods had threatened the city in the pre-conquest period. The first occurred during the reign of Montezuma, fifth king and first of this name, the second during the reign of Ahuizotl, eighth king, and the third very recently under Montezuma emperor. In 1449 Netzahualcó built an *albarradón*, or containing wall with the help of neighboring cities, but it did not stop the flooding altogether.[77] All of these floods were so great that one could only get around by canoe

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[75] Ibid., 309, 310.

[76] For more on collecting see: Paula Findlen, ed, *Merchants and Marvels: Commerce, Science and Art in Early Modern Europe* (Routlage, 2002), Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (University of California Press, 1996).

[77] Richard Boyer, *La Gran Inundación: Vida Y Sociedad En La Ciudad De México 1629-1638*, Sepa (1975), 14.

and boats and the inhabitants were so afflicted by the ruin of their buildings that they wanted to move the city.[78]

These problems continued under Spanish rule and this period witnessed a number of public works projects aimed at controlling the water surround and entering Mexico City. As we saw in Cervantes' description of the city, Luis de Velasco (Viceroy 1550-64) erected a gate surrounding the source of Mexico's water supply at Chapultepec. He also initiated the first attempt to build a desagüe, or drainage tunnel, to level the waters of the Lagoon surrounding the city. The plan was first proposed in 1555 by Francisco Gudiel. Gudiel's proposal called for a hundred thousand Indians, and it raised complaints in the *cabildo*.[79] The issue was payment of the Indians. *Cabildo* members thought that the city should not pay the Indians for their labor, and that the Indians ought to provision themselves. Referring to the "laziness" and "abundance" of the Indians the *regidores* argued that the proposed pound of meat every day would be harmful to the Indians, who "were not accustomed to it." What is more, the *cabildo* members argued that because the same rains that flooded the city had damaged the crops, they could not provide the laborers with corn without greatly increasing the price and causing even more suffering among the Spanish.[80]

Because of the complaints of the *cabildo*, and complaints from the Indians themselves Luis de Velasco Sr. did not undertake the desagüe. Instead he called for all of the oldest and most ancient Indians to make a report concerning the best way to safeguard the city. They recommended that he rebuild the *albarradón*, or retaining wall,

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[78] Fernando de Cepeda, and Fernando Alfonso Carrillo, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, ed. Luis de Braca Montes, Obras Publicas En Mexico (Mexico: Salón de la Secretaría de Obras Publicas, 1976 (1637)), 42.

[79] W. Michael Mathes, "To Save a City: The Desague of Mexico-Huehuetoca, 1607," *The Americas* 26, no. 4 (1970), 426.

[80] "[Y] mayormente que los españoles están muy pobres y necesitados y los indios muy ricos y prósperos y abundosos, y que muy gran parte dellos andan vagabundos y ociosas en esta ciudad de México y en los pueblos de la comerca, que es causa que cometen graves delitos y de muy gran daño suyo; por estar muy ricos y prósperos dejan de trabajar y hacer sus sementeras, que fácilmente podrían hacer; por cuya causa hay falta de bastimentos y carestía en la tierra; y mayormente, que dárseles una libra de carne cada día a un indio sería excesivo mantenimiento y dañoso a los indios, que no están acostumbrados a comerla….." José Sala Catalá, *Ciencia Y Técnica En La Metropolización De América* (Doce Calles, 1994), 37.

destroyed in the conquest.[81] Velasco took these elders advice and called a general *repartimiento* of Indians to rebuild the wall.

In 1555 Velasco fell back on the engineering skills of the Indians, who had built both the ancient and modern cities. Though Cervantes' characters describe the Roman and Italianate facades of the buildings in Mexico City, concentrating on cornice stones, and other features which would impress a European audience, it had been Indian artisans who built this Spanish city. The same native knowledge that had built and maintained the aqueduct bringing water into the city, the causeways connecting to the mainland, the canals that brought commerce into the city, and the *albarradón* destroyed by Cortés, had been used by Spaniards in the construction of Spanish houses and churches since the conquest, and in 1555 it remained the best option for the safeguarding of the city.

As we will see in chapter five, the eventual accomplishment of the Desagüe under Velasco's son would reflect the convergence between viceregal power and the interests of local elite, who wanted to protect their investments. While the Spanish elite in the second generation stymied the elder Velasco's hopes of the project in 1555, the creole elite of the third generation embraced the project. First, the restriction of the *repartimiento* labor draft of the Indians to public works projects eliminated competition for Indian labor. Second the depopulation of the Indians encouraged Mexico City's residents to go ahead with the project in 1607, fearing that the labor needed accomplish it, might not last much longer. Finally the work represented the new centrality of the city, and the willingness of its residents to pay for such an expensive engineering work.

Pedro Arias de Benavides,* Secretos de Chirurgia *(1567)

Pedro Arias de Benavides lived in New Spain during a time when medical professionals were scarce, and those arriving from Spain were considered green and unknowledgeable by local patients. His *Secretos de Chirurgia* describes the conditioning process, and the pranks pulled on young doctors, who did not know that certain types of

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[81] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 47.

tuna (a cactus fruit) made urine like "live blood."[82] Dedicated especially to the treatment of the Morbo Galico or *bubos* (syphilis), Lamparones (scrofula) and Mirrarchia (?), the work purported to examine "the way that the Indians cure ulcers wounds and other things in the Indies." The work, according to Arias's prologue, was intended to bring new knowledge of the medicinal plants of the Indies, and their uses to light "under the glorious name of Your Royal Highness."[83] Dedicated to the king and published in Valladolid, the book departs significantly from the majority of the medicinal treatises published in Spain for two reasons. First, like most of the works on the New World, it adopted the style of the "natural history" examining the habits and ways of the Indians. Second, whereas most of the medical texts published in Spain focused on diagnosing and categorizing illness but did not suggest medicaments to cure them, Arias included very specific recipes, which he claims to have used to good effect.

As the title of Arias's text suggests, his primary concern in the work is to publish his cure for the Morbo Galico (syphilis) hereafter referred to by the short Spanish name *bubos*. *Bubos*, Arias declared, was of New World origin, brought by Colon to the Old, and so it should not be surprising that the cure for this illness might have been perfected in New Spain, where Arias worked in a hospital for eight years. Arias claimed to have first witnessed the cure in Salamanca, performed on a cleric. He recounted that he and his compatriots thought that the cleric would surly die, but that after forty days, during which time the cleric was kept shut up inside, he came out cured, but missing four teeth.[84] This, Arias cautioned, was because the dose of mercury was too great. Arias's own cure involved a lesser dose of mercury mixed with theriac and many other ingredients, which he listed in detail and quantity.[85] His recipe included mixing instructions, amounts, and

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[82] Arias claimed that "Indianos vaquianos" (old people) in the Indies did not use doctors until they had passed two years in the Indies. Pedro Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos* (Valladolid: Francisco Fernandez de Cordova, 1567), 46.

[83] Ibid., 4.

[84] Ibid., 67.

[85] For the cure of bubos, Arias recommended three quarts of mercury, weighing a mark, not medicinal, and mix it with theriac (an opiate), and beat it in the mortero until it is dead, which you will know because it does not return to mix although you throw in a drop of oil in the mortar, and thus being well mortified, take the mixture from there, and beat six ounces of pork fat without salt, very ground up,

the operation of each ingredient, as well as instructions for the care of the patient during the procedure. His use of the first person in the preparation of the unguent, "I threw in four ounces of vine shoot," etc, assures his readers of his personal experience with these ingredients, and the outcome of the cure. Unlike the cure he witnessed in Spain, Arias assured his readers that his cure would not cause the loss of teeth, which would actually remain whiter after the cure than they were before.

In his travels through the Indies, Arias became acquainted with many places, and his work described the health of each and the effect of these places and travel on Spanish bodies. Place and health were intricately related in Arias's understanding, and certain places had certain affects on the body. Arias arrived in the Indies in 1546 and was one of the seven survivors of the *chapetonada*, which he associated with ports, sailing and the Americas.[86]

He argued that Santo Domingo was a very unhealthy place with lots of *bubos*. He noted that this was largely because Spaniards gave their children to black nursemaids. Living among them, Arias argued, the children ate and drank the same foods as the women and their children, who "are full of *bubos*." Thus, Arias claimed, "those born in that land do not have their perfect color, but are mulatto-like." The association with black nurse-maids, he insinuated, not only contaminated the children with *bubos* but changed

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and cleaned of all the little veins and nerves that it has, and this being well ground, return to incorporate it with the theriac and the mercury, and leave it there for fifteen minutes. I have for certain that the theriac quits the harm of the mercury, for the following, because the teeth stay very firm and whiter than before (!) the cure, and [patients] are able to chew after the cure, because it does not impede the teeth, because this cure expels [the humors] for the stool and urine. This being so much that there are men who will urinate thirty or forty times in a day, and it stinks so much that there is not a person who does not suffer from the stench of the urine. And then from there in two days i give them one ounce of the unguent "macieton" and another ounce of "aragon" and another of "dialtea" (an unguent made from *altea*- a *malvavisco*- used commonly in Mexico to make a desert of the same name.) Later I would encorporate all of these unguents, and let them sit for two days, and after this time, I threw in four ounces of ash of vine shoot and another half of mastic, and another half of incense, and one clove, and another cinnamon, all well sifted, and oil of berry and of chamomile, of each one ounce, and three of oil of brick. And if you want to fortify this unguent for the more robust, throw in a half dram of "euforbio" but if it is during a hot season I do not throw in any. This unguent has the property that it may go bad later, because all the things that are in it are good and noble and are incorporated, they make a good operation, as will be seen by whomever expiriments with it. If anyone sad that being the illness cold, because wine has been taken away from them, tell them that the wine opens the passages and moves the humors and creates many new ones and these force and heat the unguent and very well they will pass without wine. Ibid., 79.

[86] Alonso de Zorita was another survivor. Ibid., 30.

their color, making them "mulatto like." These native Spaniards, he argued, lived short lives, except the women who lived to be very old.[87]

The land, Arias believed, had different effects on different people. He argued, for example, that in general the heat of the Indies was prejudicial to young men, but beneficial to older immigrants. Young men, he argued, suffered because the intense heat wasted the natural heat of youth, but gave vivification to those whose heat had already dissipated.[88] Likewise, Arias argued that some areas were prejudicial to Spaniards, but not to blacks, who thrived. Describing the port of San Juan in Honduras he noted that it was very unhealthy and that the merchants lived in a town nearby. This town, he argued, was moderately healthy, and Spanish adults could manage it, but it had the unique property that all of the Spanish children born there died within seven days. Some women, he asserted, even went away to give birth, remaining for a month or two, but upon returning to the town, the children succumbed to the influence of the local climate. Blacks, on the other hand, did not have any problem reproducing there and lived to be very old. According to Arias the land there was so beneficial to blacks that those who arrived there already old, remained as they were when they arrived.[89]

Arias endeavored to bring local medical knowledge to his Spanish audience, and he described many local cures and products. In some instances Arias listed the actors responsible for this local knowledge. For example, describing the use of Cebadilla in the cure of horses' ulcers and worms in Santo Domingo, he noted that this was a "cure of blacks and Indians." These people, Arias implied, shared the same local knowledge. In other instances the source is less clear. "In that land," he noted for example, "they do not cure with any type of unction." According to Arias, no one had risked this, nor did they "cure with water of cane, although that earth bears a great quantity of them." Instead,

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[87] "Y anis todos los que nacen en aquella tierra, no tienen su perfecta color sino amulatados, ellos viven poco (los naturales digo) las mugueres son ynmortales segun llegan a viejas." Diego Arias, *Breve Tractado Del Cometa Que Aparecio a 26 Deste Mes De Octubre De 1604 Años Dirigido Al Exelente G. Duque De Medina Sydonia Del Consejo De Su Magistad Y Su Capitan General Del Mar Oceano Y Costa Del Adalucia Fecho Por El Doctor Diego Arias* (1604), 10.

[88] Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos*, 30.

[89] Ibid., 14.

locals used guaymaros, a fairly complicated unguent made from the juice of Berraza, and a paste of Cevadilla, mixed and shaped with oil, and wax into a poultice which was applied to the ulcer. This cure, he clarified, was the practice "in our times," because before "they only knew [how to cure] with the juices."[90] The addition of oil and wax was, Spanish products, was a new modification, but Arias is unclear on just who introduced this improvement. The Indians, it seems, passed on their herbal knowledge before perishing. Arias declared that he would not be surprised if "now there aren't any [Indians] left in the land," as there had only been some fifteen or twenty alive during his stay.

In the process of describing local products, Arias hinted at the production and marketing of plants such as rhubarb, Mechoacan, and chochineal, which he noted, "is not found on all tunas" but only on those found in Valco and Taxcala and in the area around there.[91] The Indians there, Arias noted, picked these tunas, taking them to market, where they were worth "a lot of money" (hartos dineros).[92] Describing the use of rhubarb, Arias mentioned an Hidalgo by the name of Bernardino de Castilla, who had a sugar *ingenio,* or factory, in Cuernavaca, "a very hot land," and had been quite successful planting rhubarb. Describing the use and manufacture, he noted that the juice of this plant was mixed with the pulp of cañafistola, dried over a low heat, and then mixed with some sugar and processed into tablets.[93] This local production, speaks to the emerging markets in New Spain's medical products, and Arias's recommendation of the purge as "very gentle" and effective plays into the marketing of these nascent industries.

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[90] "En este tierra no se curan con unción ninguna ni ay hombre que tal se aya atrevido a dar ni tampoco dan allí el agua del palo aunque en aquella tierra nace gran cantidad dello el remedio que tienen para curar las ulceras es, Tienen unos guymaros, que es unos ungüentos que hazen de una yerba que acá llaman Berreza, sacan la el zumo y muelen otra querva que llaman allá Cevadilla y cuelan lo todo y con aceyte y zera al fuego lo quaxan, agora en nuestros tiempos que antes so con los zumos se sababan."Ibid., 11-12.

[91] This was the kind of information that the Casa de Contratación wanted to keep secret. In the late eighteenth century there was even a British plot to enter Mexico and steal some cochineal to bring back for cultivation.

[92] Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos*, 45.

[93] Unfortunately when I photocopied this work, I seemed to have skipped page 23, which seems to describe the relationship between the production and shipment of these tablets and the engenio of Don Bernardino de Castilla. Ibid., 22.

Arias believed that Spaniards brought a special ability to "put to perfection" the imperfect knowledge of the Indians. Describing the usages of *tecamaca*, an aromatic resin gathered from the *tecamaca* tree, Arias notes that women "in these parts" used the gum on their navels when they suffered from morning sickness (*mal de madre*) and also to restrain their menstruation while they were pregnant. According to Arias, women in the Indies menstruated even while pregnant "because of the great virtue of the land and the many foods" they ate. Therefore they applied this resin to "comfort the baby" and to maintain their weight. Arias then guessed that his readers might be wondering: "who taught women from Castile the virtues and properties of this resin? To which he answered that necessity is a great teacher. Arias then argued that Spaniards brought a special ability to understand nature and to "make experiences" with the things they found in the Indies. Arias argued that just as the Indians had not made use of the great amounts of silver in the colony, because they did not discover the technique of using mercury, so they were unaware of their drugs (despite the fact that in other parts he also discusses native herbal knowledge). Spaniards, Arias claimed "had put everything in perfection… looking for the best remedies that they can find to cure themselves."[94]

This hybridity of knowledge is evoked in a story he told about his travels from Guatemala. The Spanish doctor noted that when "people" traveled in the Indies, even through populated parts, they carried food with them, because neither "bread from Spain nor wine" could be found along the roads, but only some herbs "for those who know them." On his own journey from Guatemala Arias carried with him, "all the food necessary, and a black woman to serve me." This woman was already more than four months pregnant, and in the middle of a "depopulated" area, she gave birth, obliging the party to stop for five or six days. Arias noted that if God had not looked out for them by providing "a mestizo that I brought with to shoe the pack horses," they all would have died. This mestizo was able to fashion make-shift fishing nets from some of the tools he carried as a blacksmith and the branches of some nearby trees, with which they were able to catch "many fish" everyday.[95] Reading Arias's account, it seems that the blacksmith's mestizoness is his defining characteristic. Using his metal tools, unavailable to the

[94] Ibid., 36.
[95] Ibid., 38.

Indians, Arias's mestizo blacksmith put to work the ingenuity of his Spanish heritage, and the natural knowledge of his Indian ancestry, saving the party.

Arias's Indians were not masters of the land, despite native knowledge. In a chapter on a fruit called "fig of hell" Arias described the Indians, and their relationship to the land. Noting that many purges which might be harmful for the Spanish were perfectly safe for the Indians, he described how their bodies were different from those of Spaniards. According to Arias, one reason that these purges did not harm the Indians was that they did not eat such heavy foods, and therefore did not have the build up of humors that Spaniards had. Arias noted that cholera was the principal humor of the Indians, and he described them as healthy and long lived, such that the eldest were not even capable of walking by themselves. Describing their physique and personality he declared them to be "gaunt, thin and not given to anger," although Arias noted that if given the chance they were a "cruel people." Around Spaniards, however, they fled "as though they would kill them." Arias observed that it was "not surprising that God has given us this nation." According to his narrative, the Indians were so timid that even the beasts in the fields recognized it. While Spaniards slept totally unprotected in "depopulated" places, the Indians were afraid to do this, and when they did, the lions and tigers that abounded in the area would kill them and eat them. Rather than defend themselves, Arias claimed, the Indians would go down on their knees, covering their eyes with their hands.[96] He concluded that the Indians of New Spain were the "most pusillanimous people" that he had ever encountered.[97]

Much of the land that Arias described was "despoblada" "depopulated." In this land Spaniards had to carry their provisions, but felt secure to sleep unprotected (with their dogs and horses) while Indians fell to their knees and covered their eyes in the face of tigers and lions. Indians in these lands had many useful herbs such as *Mechuacan*,

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[96] Motolinía on the other hand, said that when the friars had to sleep in "depopulated" places they built large fires, because the lions and tigers were afraid of them. He also talked about dogs from Spain, several of which were famous for having killed hundreds of lions and tigers. Fray Toribio de Motolinía, *Memoriales: Libro De Oro* (México, D.F.: El Colegio de México, Centro de Estudios Lingüísticos y Literarios, 1996), 329.

[97] Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos*, 28.

Zasparilla, *Cebadilla* and curative fruits such at the tuna, *guaymaros*, and avocados that Europeans might benefit by, but they did not know how to make proper use of them. Just as the Spaniards had discovered the amalgamation process, using mercury to extract the silver of the New World, they had discovered the cure to *bubos*, and the use of many native products, such as *tecamaca*. Mercury extracted the wealth and *mal* of the Indies just as Spaniards extracted its knowledge for use in the metropole.

Francisco Hernández, Protomédico Mayor de Su Majestad

In 1570 king Philip II outlined his expectations for Francisco Hernández in his travels in the New World. Hernández was charged with describing the flora, fauna and peoples of the lands he visited, starting with New Spain, "because we are informed that more plants, herbs, and medicinal seeds are to be found there than elsewhere." The correspondence between Hernández and the Crown provides an excellent window into the motivations of the project and the relationship between native informants and Hernández. The king instructed the *protomédico*, or chief medical officer, to "consult, wheresoever you may go, all the doctors, medicine men, herbalists, Indians, and other persons with knowledge in such matters, if it seems to you that they have understanding and knowledge."[98] These instructions are telling. On the one hand they assume the presence of "doctors" in New Spain, but on the other, they leave the judgment of this knowledge to Hernández. The king wanted the doctor to find out the use, application and efficacy of remedies and medicines, ordering Hernández to make tests of these products and descriptions of their cultivation, properties and uses. Native knowledge was not discounted, but needed to be attenuated by the learned judgment of Hernández.

Hernández arrived in New Spain in 1571, the same year that the Jesuits and the Holy Office of the Inquisition brought Counter-Reformation policy to New Spain. It was, for all intents and purposes, an important year in the imposition of Royal control in New Spain, and Hernández's mission was part of a conscious project of Royal expansion and control. Hernández's stay in the kingdom lasted much longer than anticipated and his letters back to Spain justified this delay while requesting further resources needed to fund

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[98] As translated in: "The Instructions of Philip II to Dr. Francisco Hernández" Simon Varey, ed, *The Mexican Treasury: The Writings of Dr. Francisco Hernandez* (Stanford University Press, 2000), 46.

the "perfection" of his project. These letters illustrate the way that both Hernández and his patron understood the role of natural philosophy in the project of empire. Hernández reported, for example, that the new plants and medicines that he was discovering, cataloguing and drawing would make trade in medicines from the East unnecessary. These new products, he claimed, would cause the whole world to rejoice, "and Your Majesty will gain even more renown and eternal fame, more than princes of old ever received from their victories and empires."[99] He saw his task as one of great importance, arguing that the exportation of these new medicines would "promote universal health as well as a reduction in the high cost [of medicine.]"[100]

Hernández described the way that he mediated local knowledge as part of his justifications for his long stay. Assuring the Crown of the care and diligence he made in the collection of information, Hernández noted that "no plant is painted unless I have seen it ten or more times in different seasons, smelled and tasted all its parts and asked more than twenty Indian doctors, each one individually, and considered how they agree and differ, and unless I have subjected it to the rigorous methods of identification and examination that I have developed here for the this project."[101] The doctor mediated and collected information from "Indian doctors" against his own experience, and the "methods" he developed in the process. Nevertheless, the importance of his native sources must not be overlooked, and throughout his letters he references his reliance on "herbalists," who brought him specimens and doctors and painters who gave him information and took on the task of representing the plants and animals of this new world.

In his *Antiguidades,* Hernández described the nature of New Spain, the Indians and their technological knowledge as well as the "wonders" of the land. He started his description with a general description of the entire land and shape of the Indies, then moved on to things pertaining to New Spain and the Mexicans. Describing Mexico City, he noted that it was neither hot nor cold, but humid so that "rottenness sometimes predominates." Hernández extolled the bounty of the land saying that "[o]ne could say that because of this exceptionally rich and fertile soil, there is never a dearth of anything;

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[99] as translated in: "Letter 3; November/December 1571" Ibid., 48.
[100] As translated in "Letter 12; March 24, 1576" Ibid., 59.
[101] As translated in: "Letter 7; March 31, 1573" Ibid., 52.

all sorts of things thrive and grow luxuriantly and fruitfully." The Indians, he declared, were "feeble, timid, and mendacious." Living day to day, they were also given to wine and luxury. However, he noted that they also had a phlegmatic nature, "which enables them to master even the most demanding of arts, which we do not even attempt, and to make exquisite copies of any work, without having to be taught." [102] Hernández contended that just as the plants in the Indies had shallow roots, the minds produced by the land were not constant or strong, and he indicated racial mixture as a factor increasing this degeneration.[103]

Although Hernández praised the craftsmanship and language of the Indians he derided their state of civilization and their ability to understand the nature around them. Like many in his generation, Hernández had a decent understanding of Nahuatl, and even sought to translate parts of his works into this language "for the benefit of the native population." [104] He praised the language, noting that it was surprising that "such uncultivated and barbarous people" might have contrived a language in which the words "have been adopted with such precision and care, that the name alone is enough to indicate the nature of any important thing."[105] Describing the featherwork sold in the markets, Hernández noted that "[our] craftsmen could not emulate any of this…Nor for that matter are they inferior to Spanish craftsmen in setting, carving or drilling precious stones."[106] After listing the many items for sale in the *tianguis* of New Spain, Hernández described the things that the Indians lacked notably iron, money, a system of weights and measures, candles, decency ("comfortable clothes, shoes, underwear, caps, tunics") or just laws. These things, he argued, were not lacking "because the region was hostile to all good things," but because "of the idleness of these people, who so many centuries after the creation of the world, have remained in such simplicity."[107] Likewise, the

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[102] The Climate of Mexico City Ibid. (1.23) 72, 73.

[103] But plants do not have deep roots, nor is anyone's mind constant and strong, and the people who are born now and who in their turn begin to occupy these lands, are either of Spanish descent, or come from an ancestry of diverse races; if only they would obey Heaven, not degenerate until they adopt the customs of the Indians." Ibid. (1:23), 73.

[104] "Letter 9; March 20, 1575"Ibid., 56.

[105] "The Mexican system of writing, numberation, and the calender" Ibid. (2.20), 78.

[106] Markets Ibid. (1.27), 76.

[107] "Things familiar in Europe that the Mexicans lacked until the Spanish conquered them" Ibid. (1.28), 77.

esteemed doctor disagreed with many of their medicinal practices, especially their belief that hot remedies conquered hot illnesses, and cold conquered cold. "And thus," Hernández declared, "even when they have a marvelous array of healthful herbs to choose from, they do not know how to use them properly, nor exploit their real value."[108] The Indians, he argued, were incapable of understanding or manipulating the world around them despite their proficiency as linguists or craftsmen because they were too lazy to be bothered.

After nearly six years residence in New Spain, Hernández sent the king sixteen volumes of the Natural History of that land. These volumes included paintings, descriptions and histories in Spanish, Latin, and Nahautl. Hernández, who had spent nearly eight years in the Americas working on this project and as a doctor in the colony during the 1576 epidemic when "there was no one left in this land with any competence to do so" returned to Spain where he died shortly.[109] He claimed to have spent some 20,000 ducats of his own money on the project and left a will asking the Crown to pay 60 ducats each to the painters Pedro Vázquez, Antón, and Baltasar Elías. In addition he requested that the many Indian doctors and helpers be given some sort of remuneration, as they had never been paid.[110] "Too many to be named," these doctors and helpers thus remained anonymous and most probably unremunerated, essential though they were to the compilation of the work.

Like many of the imperial projects of this period the work itself was never published, although manuscript copies and bits and pieces of the work appeared in many other publications, such as that of Juan de Barrios, throughout the following centuries.[111] As Antonio Barrera, Maria Portuondo and others have demonstrated, this era represented an important moment for the development of empirical practices and Imperial ambitions.[112]

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[108] "The doctors called *titici"Ibid.* (2.2), 78.

[109] "Letter 12; March 24, 1576" Ibid., 59.

[110] Museo Nacional de Antropología, *Testamento Del Dr. Hernandez, Medico De Don Filipe Ii (Copia a Maquina)*.

[111] In 1616 Francisco Ximénez published an edited version of the copy made in 1580 by Nardo Antonio Recchi in Mexico City, entitled *Quatro libros.* For a full description of the complicated history of Hernández's work see Varey, ed, *The Mexican Treasury: The Writings of Dr. Francisco Hernandez*, xvii.

[112] For more on imperial science see: Antonio Barrera-Osario, *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution* (Austin: University of Texas Press, 2006), Jorge

The *Casa de Contratacion* busily collected information from the far reaches of the empire, but many of these projects were too unwieldy to publish. There was also the matter of state secrecy. Portuondo notes that natural resources, geographical features, and even peoples were "considered to have strategic, defensive, and monetary value and needed to be safeguarded from foreign and internal enemies alike."[113]

Cosmography was a politically touchy subject, and maps and descriptions were potential sites of dissension between rival Kingdoms. For this reason Juan Bautista Gesio, the Royal Cosmographer at the Council of the Indies, asked the king not to allow any book or map to be printed before "someone very knowledgeable in this science" could look over them first, "so as not to give our advisories the opportunity to corroborate their pretensions with Castillian papers." [114] Bautista claimed that the early Portuguese hydrographers had already mis-calculated the demarcation, but that modern hydrographers had increased these mistakes, exaggerating their claims to the Maluccos in the East and incorporating much more land in Brazil than was their right.[115] What is more, he believed that "they signaled in their navigational charts that the line of demarcation passes through the mouth of the Rio de Orillana and Rio de la Plata, giving Brazil 300, between these possessions, which are false and made with artifice and maliciousness."[116] He blamed "Castillian hydrographers, who do not understand navigation and follow the opinions of the ancient Portuguese hydrographers […] quitting Castilla of much land and giving it to the Portuguese."[117] Most of all he blamed Juan de Barros, a Portuguese cosmographer and historian, saying that his calculations were

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Cañizares-Esguerra, *Nature, Empire, and Nation: Explorations of the History of Science in the Iberian World* (Stanford, Calif: Stanford University Press, 2006).

[113] Portuondo, *Secret Science: Spanish Cosmography and the New World*, 7.

[114] Archivo General de Indias, herafter AGI, *Patronato, 259, R. 72, 1578, Juan Bautista Gesio: Obra Y Tables De Geografía De Nueva España.* (1578).

[115] "[A]largaron los limites de su repartimiento asi hasta el oreitne en los maluccos como hazia el occidente en el Brizil, y porque cubiesse a la corona de Portugal mucha mas tierra del Brazil abreciaron mucho mas que no havian hecho sus passados la distancia y longitud entre el cabo verde y el cabo de Santo Agustin." Ibid.

[116] "[S]eñalaron en sus cartas de marear que la linea de la demarcacion pasasse portaboca del Rio de Orillana y por el Rio de la Plata y que cayeren de la tierra del Brazil en el repartimiento de Portugal 300 leguas, entrambas ese dos poseciones son falsas, de industrua y maliciosamente hechas." Ibid.

[117] "[L]os hydrographos castellanos no entienden esta navegación y distancia, estando a credito de los hydrogarphos antiguos portugueses seguiron sus opiniones y señalaron sus cartas de navegar como los dichos, engañandose ellos mismos, quitando muchas tierras de la demarcación de Castilla y dandolas a Portugal." Ibid.

wrong, and noting that Americo Vespuci, using an astrolabe found that all of Brazil fell within the *repartimiento* of Castilla.[118] For this reason maps and geographical descriptions were often kept secret.[119]

The Relaciones Geográficas (1579- 1584)

The *Relaciones Geográficas* was another ambitious imperial project which never saw publication. Initiated by Juan Lopez de Velasco the Cronista Mayor of the *Casa de Contratación*, the purpose of the project was to assemble information the provinces and their potential. To this end lists of questions and instructions were sent out across the territories. Respondents were asked to consult with local people, answering each of the fifty questions. They were also asked to include a map of their area and to perform astrological measurements for the eclipses of September 26, 1577, September 15, 1578[120] and June 19, 1582 that would ascertain the exact geographic location of each place. Respondents sent in 69 maps (45 of which were drawn by native artists), and hundreds of verbal descriptions and replies.[121] The idea behind the project was that once collected, this information might be compiled into a master map, which accurately depicted the possessions of King Philip II, and the relationship between each place. As with many of the projects begun in this period, however, the final product was never completed.

The reports that came back provide an interesting look at the way that Spanish officials understood nature and local knowledge. Each account described the situation of each pueblo, the health of the land, its proximity to other towns, salt and mineral deposits, especially gold, and the people and their customs. Gathering this information

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[118] For an in depth look at the issue of navigation and use of the astrolabe raised by this very issue see Allison Sandman's article "Mirroring the World: Sea Charts, Navigation, and Territorial Claims in Sixteenth-Century Spain" in Paula Findlen, ed, *Merchants and Marvels: Commerce, Science and Art in Early Modern Europe* (Routlage, 2002).

[119] "Ya se os escrivio que embiasedes a los officiales de Sevilla la descripcion y patron que traxo Samiento de las costas y navegacion del estrcho y assi lo hareis, preveniendoles para que con todo secreto y recato y en su presencia y de Diego Florez hagan que el cosmographo tome la razon de todo ello, y la ponga en las cartas aziendo solas aquellas que fueren necessarias para que esta armada las lleve, y sin quedarle ninguna otra se meta el patron en la arca de las tres llaves, y cuando buelva esta armada se cobren las que llevan y se guarden." AGI, *Indiferente, 729, N.306, 01-03-1581, Consulta Del Consejo De Indias* (1581).

[120] AGI, *Indiferente, 427, L.30, F.278r-279r, 1577, Real Cédula* (1577).

[121] Barbara E. Mundy, *The Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geográphicas* (Chicago: 1996), 30.

from the "ancient" Indians and other informants, local officials translated and made sense of this knowledge. [122] In the process, they made value judgments about the Indians and their ability to know the natural world.

Many of these reports touched on the "nature" of the Indians. The report that came back from the mines of Zimpan said that the Indians were "in their understanding, common barbarians (*barbaros en comun*), and clumsy and vice ridden in their inclinations, especially in their drunkenness" [123] Alonso de Contreras y Figueroa was even more critical saying that they "are people of little honor, truth or shame." He believed that if they were not forced to work they would do nothing, as they were "good for nothing" and "lazy, such that if it were possible [for them] to have food to eat without working, laying down under a maguey, they would make no effort to do it, even if they were naked their whole lives." This, he claimed to be true for all of New Spain.[124] These reports hint at the broad dissemination of the "lazy Indian" and "drunken Indian" trope which seem to have become the most common stereotype of the Indian.

The responses also described the nature of New Spain, and the changes affected by the entrance of the Spaniards. Some respondents deemed the arrival to be beneficial. In the relation from the mines of Zimapan, the *juez repartidor* Alexo de Murgia declared that the area used to be so sterile and dry that the Indians could not pick fruit in her, but since the arrival of the Spanish, some four years past, "it has rained sufficiently to sow and reap the fruits of the earth in abundance." The author claimed to have "seen and experienced" this occurrence, noting that the *naturales* took it as a sign of the special providence of God.[125] The relation from Coatepec, however, described the entrance of

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[122] "dizen los viejos antiguos, y sus mayores ancianos y pasados" Francisco Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, Geografia Y Estadística (México: Editorial Cosmos, 1979), 44.

[123]"[S]on, en sus entendimientos, barbaros en comun, y sus inclinaciones torpes, y viciosos en especial en la enbriaguez." Ibid., 3.

[124] "[E]s gente de poca onrra y verdad y verguenca, y ansi por estas ocasiones cualquiera cosa que se les mande la hazen de temor, y si los vuiesen de llevar por bien no harian cosa; es gente para poco, floxos, en tanta manera que si fuese pusible sin trabajar, estando acostados, tener que comer, no haria diligencia para ello, aunque estuvieron desnudos toda la vida, y ansi algunos se estan debajo de los magueyes y se sustentan del vino que dellos se haze a su modo, y yerbas y tunas que en los mas pueblos tienen de cantidad; anse de llevar por mal para que hagan lo que les mandan, y esto es general en toda la *Nueva España.*" Ibid., 17.

[125] "Averiguase ser esta tierra tan esteril y falta de agua que, de puro seca, adia de suyo, y que no se coxia fruto en ella, a derechas a lo menos, de semillas, y que de cuatro años a esta parte poco menos que los

the Spaniards as deleterious. Christóbal de Salazar, the *corregidor*, described the area as a healthy place and of good climate, saying that according to the oldest people of the town it had only known illnesses such as *bubos*, bloody stools, fevers and the "evil eye" which they were able to cure with herbal remedies. However, since the Spanish came the people now suffered from illnesses they could not cure such as "small pox, measles, pleurisy, typhus, sleepiness, hemorrhoids, and the pestilence which was presently going around that they did not have before."[126] Likewise, Andres de Curiel, the *corregidor* of Totolapa, said simply that "there lived more [Indians] and they were healthier formerly, than now" but he says "no one knows the cause."[127]

Responses to the *Relaciones* frequently referenced the idea of the civilizational continuum discussed earlier. In his report on Coatépec, the *corregidor* related that the very ancient Indians informed him that until the Mexicans arrived about 168 years prior with corn and *agi* and beans and other vegetables, their ancestors had been hungry all the time, surviving off the meat of lions, tigers, foxes, cats, deer, mountain pigs, rabbits, snakes and other wild animals.[128] According to the relation of these elders, the Mexicans

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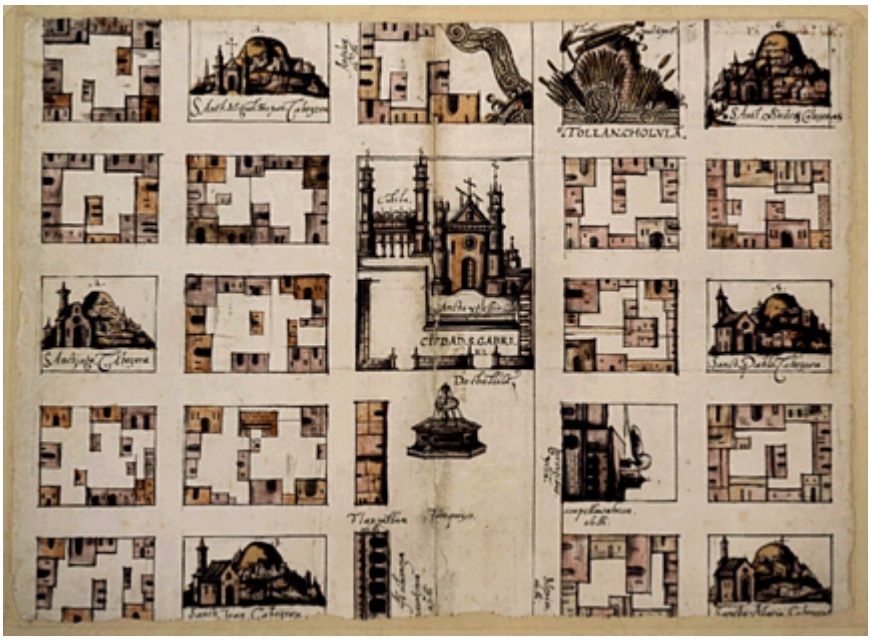
españoles poblaron estas minas a llouydo suficientemente para sembrar y coger los frutos de la tierra en abundançia, y en tres años que a que resido aquí lo e visto e ysperimentado, y se tiene por los yndios naturales destos pueblos por especial providençia de Dios…" Ibid., 2.

[126] "[E]s sano y de buen temple…dizen los viejos antiguos que en el tiempo de su infidelidad los ynformaron sus pasados que las enfermedades que les subcedian a los naturales eran tercianas y quartanas, bubas, camaras de sangre y mal de ojos y calenturas, para los queal usaban y tenian muchas yerbas y raíces medicinales con que se curaban y purgaban para sanar de las dichas enfermedades, y estas yerbas y raíces las hallavan muy provechosas, y que después que vinieron a esta tierra los españoles se les han recrecido otras enfermedades que no solian acudir, como son viruelas, sarampión, dolor de costado, tavardete, modorra, paperas, almorraneas, y esta pestilencia que anda agora, que no avia en aqellos tiempos: y en le dicho tiempo de su infidelidad de los naturales, en sus enfermedades, no usaban sangrias en los bracos: el rremedio que hallavan era punçarse en la cabeça, e por el cuerpo y pechos y vientre, con un hueso, delgado y muy agudo o con un colmillos de bivora que para este efecto, tenian los yndios que curaban y con esto que hazian sanaban luego de cualquier enfermedad." Ibid., 57-58.

[127] "[V]ibian mas y mas sanos antiguamente que agora, de lo que no se sabe la causa." Lucas Pinto writing about Tzicaputzalco agrees saying "antiguamente dicen que bibian mas sanos que agora y abia mucha mas jente que agora y al presente no biben tan sanos como en tiempos pasados y se mueren agora muy a menudo, y la causa no la saven." Ibid., 10, 97.

[128] "[D]izen los viejos antiguos, y sus mayores ancianos y pasados se lo dizeron ansi, que en sus tiempos en el tiempo de la infidelidad, las aguas y lluvias heran muy comunes y rrecias y llovia en cada veynte dias en gran manera y hazia muy grandes nieves e caya mucho granizo que les era a los naturales excesivo trabajo, que no lo podian tolerar, por que en aquellos tiempos padecían grandes hambres y no alcancavan mayz ni las demas legumbres que agora ay y se sustenavan de las carnes de la caça que matauan de leones, tigres, zorros, gatos, y puercos monteses, venados, conejos, liebres, culebras, biuoras y aves que cacaban, hasta que llegaron los dichos yndios culhuas y meçitis que son los dichos mexicanos que puede aver ciento y sesenta y ocho años poco mas o menos, los quales truxeron mayz, agi y frisoles y otras

brought the rudiments of civilization to the area. Now, Coatepec had plazas and streets, "in the manner of Spanish towns." Echoing a familiar trope, he lamented that if the pestilence "which runs among them" would only end that the Indians were "of good intelligence and reason and well inclined, docile and of good minds for learning and understanding any office which is taught to them." [129] In the report that came from Zimpan the author, a *juez repartidor*, Alexo de Murgia, described two different groups living the surrounding area: the "docile Chichimecs" and the "brave Chichimecs." Murgia noted that the "brave Chichimecs" went about naked, while the docile Chichimecs "go about dressed and in *policia*, with capes, shirts and underwear of cotton and wool."[130]



View of Cholula from the *Relaciones Geográficas*
The Benson Latin American Collection

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legumbres de la tierra, y desde aquel tiempo comencaron los naturales desta proincia a hazer y labrar sus sementeras, por yndustria de los dichos culjuas y meditis, para su sustento……y en especial por los meses de Julio y Agosto, en los dias caniculares, que es el tiempor quando el sol arde mucho en demasia que les es dañoso a los naturales…" Ibid., 44.

[129]"Este dicho pueblo esta asentado y poblado en pueblo formado por sus calles y plaça, e tracado en forma y manera que estan traçados los pueblos de españoles, y en lugar sano y permanente, si cesase la pestilencia que anda entre ellos: son los naturales de buen entendimiento y razon y bien ynclinados, dóciles y de buen yngenio para depredner y entender de todos los oficios que son enseñados; algunos saben leer y escribir, biben en pulicia y congregación.." Ibid., 47.

[130] "Los chichimecas mansos, a diferencia de los brauos questan en Cerra gorda, andan desnudos y los que en estos tres pueblos estan después que le poblaron los españoles andan vestidos y en pulicia, con mantas, camisas y calçones de algodón y lana." Ibid., 4.

The graphic representations sent in, often drawn by native artists, involved both Spanish and indigenous iconography. In most, churches represented different locals, but toponym markers, such as the one featured at the center, also designated place names. This image sent back from Cholula represents the spatial order imposed by Spanish dominion, and the gridiron framework that symbolized *policia*. Here the city is placed in a sort of symbolic relationship with the surrounding towns. At the center of the image is the local chapel, a market, and fountain, in Spanish style, but the toponym and the river depicted at the top, complicate the image, suggesting that the artist was most likely native.

The art historian Barbara E. Mundy argues that these maps may have been seen by local participants as less important than the written information. She contrasts the careful compliance on the part of Spaniards and creoles with the questionnaire to their "perfunctory, awkward, almost careless" maps. She concludes that perhaps these functionaries saw the pictorial as the realm of the Indians, a sub-standard way to relay information. She notes that the maps were often relegated to Indians, and that even when Spaniards did draw them, they seldom signed their works, as they did without fail in the textual responses.[131] 65% of the maps are presumed to have been painted by native artists (32 native artists painted 45 maps, while 15 non native artists painted 24).[132] However, I would like to suggest that perhaps mapping was assigned to Indian participants out of a recognition, which seems to be quite general, of their particular ability in the graphic arts. As she points out map-making and perspective were not established practices in this era, and Spaniards demonstrated a general respect for the "paintings" of the Indians and the information they contained.

The local officials answering these questions generally respected the Indians' linguistic abilities and their historical records. For example Christóbal de Salazar, *corregidor* of Coatepec and its sujetos, or subject towns, recounted local lineages and dynastic alliances. The *corregidor* noted that according to the account given by the "old"

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[131] Mundy, *The Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geográphicas*, 30.
[132] Ibid., 30.

people of the pueblo and "the pictures left to them by their ancestors" the pueblo had been independent, ruled by its own caciques and leaders, who were loved, feared, respected, and taken for "natural lords." Salazar judged that "from what is said and as it seems in the pictures" the founder of this independent kingdom was named Huehue Totomyhua, a daring, bellicose, and valiant warrior who subdued the region. He then recounted the history of succession and aggression that had made the kingdom what it was, citing references from both his informants and their "ancient paintings."[133] Nahuatl place names frequently described local natural phenomenon, and Salazar explained the meaning of the names, and the natural feature they represented. Aquauhtla, he noted, meant oak, and the pueblo of San Francisco Aquauhtla had possessed a great oak stand when the three brothers who had come to "populate" the area had arrived.[134] The area, he remarked "*was* covered with many great oaks" and for this reason it was called Aquauhtla.[135] It is difficult to know if his choice of the past tense here indicated the alteration of the local environment, but he later suggests that the area could be a good supplier of wood, things like boards and beams, to Mexico City.[136]

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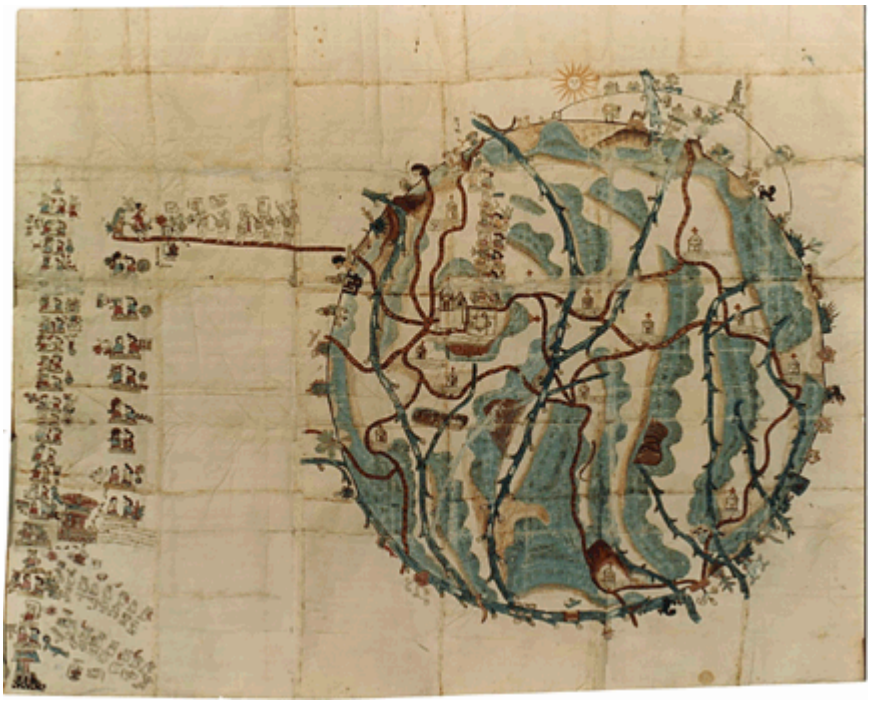
[133] "Totomihua Xocoyotl, que vivio noventa y quatro años: deste se dize que gobernó con mucha paz a los suyos; no dizen los viejos ni parece por pinturas antiguas queste tuviese el tiempo que vivio guerras con cingunas provincia, mas de que amplio su tierra y se pobló de mucha gente que durante su cacicazgo le vinieron de diferentes partes y lugares…" Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 51.

[134] It is interesting to note that here Salazar uses the same word, "populate," to describe the conquest and settlement of native lords, just as Spaniards used the word to describe the actions of conquistadors.

[135] "El pueblo y cabeçera de Sant Francisco Aquanuhta, su propio nombre en la lengua que le pusieron los antiguos es Aquauhtla, que tomo este nombre porque cuando vinieron a poblar a le los tres caciques hermanos hallaron en este sitio un "grande rrobredal," quel campo estaba cubierto de muchos y grandes robles, y por este rrobredal le pusieron el nombre questa dicho.."Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 49.

[136] Ibid., 63.



Antequera, from the Relaciones Geográficas
Benson Latin American Collection

Likewise, respondents frequently respected the medical knowledge of the native inhabitants, and their responses demonstrate the diffusion of knowledge in both directions. The *coregidor* of Totolapa, for example, noted that the curative plants of the area were: *tlatlacotiqui*, which they use on burns, *pizaguac*, for diarrhea, *yamance*, which they use for unknown illnesses, *ylacazihuic* for fevers, *poxaguac* for bloody stools, *yzel*, for side-aches (kidney infections),etc."[137] Juan de Tolossa Olea, corregidor de Çitlaltomagua and Anequilco decried the Indians habit of bathing but he also thought that some of the Indian remedies were helpful. For example he praised the use of the root called *popocoltzin*, which he said means "foamy," for its ability to purge cholera from the body. He noted that this was a very common remedy and that many *naturales* and "even some Spaniards" had taken it, when on the verge of death, to good effect.[138] In the report sent in from Tuecaltiche in Nueva Galicia, the respondent noted that the Indians used to use "some old Indian women who would come and suck on the part of the body a that

[137] Ibid., 10.

[138] "[E]s la rraiz tan buena que munchos naturales, y aun españoles, an estado muy enfermos y al punto de muerte de grandes bascas y congojas que an pensado ser o proceder de algunos hechizos y ser de colera grande que tienen en el cuerpo, y tomada aquella raiz echar mucha colera y quedar sanos..." Ibid., 162.

hurt," but now they used picietl and other herbs "that they know" as well as bleeding, "because they had seen the Spanish" do this.[139] These descriptions describe the process of transmission taking place in both directions as both groups adopted the techniques and remedies of the other.

Like many of the scientific projects and works in this era, the reports sent back for the *Relaciones* listed the plants and products of New Spain, but they did so in response to pragmatic questions meant to suss out the productive value of each area. The elders of *Utatlan*, for example, told their *corregidor* Captain Lucas Pinto that they had many trees "from which could be taken a great deal of wood for all kinds of buildings," capotes, bananas, and other fruit from Castile, including oranges, lemons and sugar cane, as well as pine nuts. The area also produced corn, beans, chile, *chian*, seeds., and melons of Castile. Among the animals found there, were lions, tigers, deer and hens- both of the land and of Castile, "which reproduce in abundance." The Indians related that they did not have gold or silver mines, only copper. Likewise they had no salt reserves and they had to get salt from Alauztlan on the coast. They paid tribute with hens, mantas (large woven capes) and *pinol* for drinking.[140] These descriptions illustrate the material exchange that had been taking place over the previous generations, and both the wealth and poverty of Utatlan.

The *Relaciones Geográficas* represented the metropole's desire and confidence concerning its overseas empire. The project aimed to coordinate, in a very literal sense, Spain's territories, so that they might be better exploited. The information sent back provides an interesting window into Spanish claims in the area and Spanish conceptions of the land and its peoples. Respondents reified tropes such as the "lazy Indian," the "drunken Indian" and the bounty of the land. Like many of the authors we have

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[139] "Al diecisiete capítulo, diejeron que siempre esta tierra ha sido sana, y que la cura de las enfermedades que tenian antes que se bautizasen, era llamar a una Indias viejas que con la boca, les chupaban en la parte que dolia y de que estaban heridos, y , ahora, usan del *picietl* y de otras yerbas que ellos conocen, y de sangrarse, por haberlo visto a los españoles." As cited in: Raquel Álvarez Peláez, *La Conquista De La Naturaleza Americana* (Madrid: Consejo Superior de Investigaciones Científicas, 1993), 297.

[140] Pinol is a corn flour. Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 130.

discussed, they had mixed ideas about Indian technology, but they mostly agreed that Spanish influence might raise these Indians up some civilizational ladder.

Conclusion

The scientific projects of the second generation reflect the same ideas that informed juridical proceedings concerning the conquest and domination of the Indians. Just as Spaniards based their belonging in the New World on a civilizing mission, they understood their place in New Spain in terms of their superior ability to understand and organize its natural resources. Spain was in a process of expansion, and it based this expansion on a civilizing mission and their own technological superiority. Part of this project involved gathering knowledge and information from local sources. Spaniards believed that natives had special knowledge of the land and its flora and fauna, and overwhelmed by the newness of these things they resorted to native nomenclature and graphic representations. Yet they believed that the information they gathered needed to be mediated, "tested" and "perfected" by a superior Spanish understanding of the "book of nature." With the exception of Martin de la Cruz and Miguel Badianus, these informants and artists remained anonymous (and in the case of Hernández unremunerated.)

Processed through the lens of western natural philosophy and Spanish political ideals, native lives and natural knowledge were shaped according to a Spanish form. This involved the physical relocation of the Indians, and the appropriation of local products and cures. But at the same time, each of these works and projects speak to a reliance on Indigenous production, knowledge, and skills. Just as indigenous land tenure practices mediated the process of congregation, local skills and production mediated tribute and the local economy, and native medical and herbal knowledge changed Spanish healing practices creating a hybrid medical culture.

Chapter 4. "Sucking the Blood of the Indians:" Spanish Discourse on the Mortality of the Indians

Throughout the sixteenth century epidemics and pestilence scoured New Spain, leaving much of it depopulated. This mortality left traces, the hollows and ruins of houses, foundations and the shadow of a people lost.[1] Maps after the sixteenth century frequently carried inscriptions such as "barrio now uninhabited."[2] Pueblos that remained were diminished; some were left with only a handful of people in a scattering of houses.[3] The loss was palpable, and inexplicable, scarring the landscape, native society and the Spanish consciousness.

Many blamed this loss on the will of God, even as they blamed Spanish excesses. In 1564 a group of mendicants wrote to King Phillip concerning the mortality of the Indians and the mismanagement of the *Visitador* Valderrama. Stressing the increase in work heaped on the Indians they noted that while the work increased, God did not permit the Indians to increase, "but rather to diminish and run out." This loss, they noted was felt

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[1] "[H]ubo en esta provincia de Coatepec, mas de diez mill yndios de guerra, sin otra gente menuda, y que en el tiempo de su infidelidad las lomas, laderas y valles, deste pueblo estaban muy poblados y llenos de caserias y estancias de yndios, y en todas las quebradas, como paresce oy en dia por los paredones, cientos de casas y "cues" que en aque tiempo avia, y que ansi lo hallaron los españoles quando vinieron a la conquista; y después de pacifica la tierra lo a estado ansi hasta que de cuarenta años a esta parte poco mas o menos, por pestilencias grandes que a avido en diversos tiempos y años, se an disminuido en gran manera los naturales, y esta es la causa de que aya al presente tan poca gente en esta provincia, y ansi se cree que sera en las demas desta Nueva España." Ibid., 47.

[2] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*. p. 54.

[3] Discussing the loss taking place over the course of the sixteenth century, Juan Bautista Pomar described the emptiness of the land. "porque afirmaban que era sin número la gente que había, y parece bien claro que debía ser así por la mucha tierra que labraban y cultivaban, que hoy día parece acá millonada generalmente en todas partes."García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 50.

greatly by the Indians and even more keenly by those "who knew what a rich *mine of souls* there had been for Our God." Writing to complain about the new tributes imposed by the Visitador Valderrama, they declared that if these impositions were not lightened "the conservation of New Spain could not last much longer."[4]

However, as time went on providential explanations for the mortality became rare. This shift in discourse is exemplified by a communiqué to the Crown written at the height of the 1576-80 epidemic of *cocolistle*.[5] Then Archbishop Pedro Moya de Contreras discussed the pestilence plaguing the land without a single reference to God's judgment, but in the following paragraph he noted that Pope Gregory XIII had announced the beginning of the Jubilee to appease the ire of God as the "provinces of Italy and other Christian parts, remained in pestilence *due to our sins*."[6] One explanation of this might lay in the phrase "Christian parts," as Spaniards imagined God's retribution to be tied to faith and duty. As we saw in the last chapter, Las Casas envisaged the borders of the Pope's jurisdiction to be defined by evangelization and baptism, perhaps Moya understood punishment along the same lines, the Indians ought to be exempt from this judgment the same way that they were exempted from the grasp of the Holy Office, as

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[4]"Otra Carta para el Rey D. Felipe, Nuestro Señor, en Nombre de los dichos Padre Provincial y Difinidores." Gerónimo de Mendieta, García Icazbalceta Joaquín, *Códice Mendieta: Documentos Franciscanos, Siglos Xvi Y Xvii* (Guadalajara : E. Aviña Levy, 1971). VII, 29, 30.

[5] The great pestilence of the 1570 is elsewhere identified as *matlaxahuatl* (Humboldt). Gerhard, Zinsser, Guerra, and Gibson all identify *matlazahuatl* as typhus (Rickettsia prowazeki), while MacLeod believes it to be pneumonic plague. Both diseases fit the pattern of symptoms but it is unclear how either disease could have been transported. Typhus is carried by a louse which requires a human host, and thus would have signified infection, and pneumonic plague is air born and has morbidity and mortality rates of almost 100%- making it almost impossible that a ship infected with pneumonic plague would have gone unnoticed. Francisco Guerra suggests that there was a native typhus, noting that Augustín Farfán, Juan de Barrios, and Diego Cisneros all argued that the disease called *tobardillo*, *tabardete* or *matlazuatle* (literally red pustule) referred to a native typhus. Whitmore suggest that it might have been Rocky Mountain Spotted Fever and that during the "explosion" of domestic animals that horses, cattle, etc acted as hosts to the wild ticks. The main problem with all of these theories is that they do not explain the selectivity of the epidemic. In other words why did the Indians die while the Spaniards survived, as Spaniards did not have any more tolerance for these diseases than the Indians? In this regard, typhus is the most likely candidate as the close living patterns of the Indians might have facilitated the spread of a body louse. Francisco Guerra, *La Medicina Precolombina*, Ediciones De Cultura Hispanica (EGRAF, S.A, 1990), 104. Whitmore, *Disease and Death in Early Colonial Mexico: Simulating Amerindian Depopulation*, 64-65.

[6] Emphasis mine "Nuestro Señor fuese servido de aplacarse y alzar su ira de las provincias de Italia y otras de la cristandad que *por nuestros pecados* padecían pestilencia y general mortandad." Francisco del Paso y Troncoso, *Epistolario De Nueva España 1505-1818* (Antigua Librería Robredo, de José Porrúa e Hijos, 1939). Item 697, Letter from Archbishop to King.

neophytes.[7] More likely, providential retribution ceased to make sense in a world where Spanish sins and excesses against the Indians were so prevalent and manifest. This is born out by a letter written in 1568 by Fray Gerónimo de Mendieta, concerning the preservation of the kingdom. Following the same interpretation that we saw with Grijalva in chapter two, Mendieta argued that God did not send the "continuous epidemics" that plagued the Indians as a punishment for their sins, but as a mercy to them, so that they did not have to live in "such a bad world." He claimed that the diminution was punishment for the Spaniards, because the conservation of the Indians would be of supreme "utility" to the Spaniards, while without them Spaniards would not be able to do anything except "rob and kill one another." Referencing Spaniards assumptions about their relationship with both God and nature, Mendieta pleaded with the king so that "we, with our presumption of Old Christians and able and intelligent, do not find ourselves made fun of for having made fun of those poorly dressed."[8]

This chapter examines the discourse on mortality during the second generation, when behavioral explanations came to the fore. The Indians died, according to this discourse,

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[7] In his discussion of the rights of one nation to dominate another based on the idolatry of the other, Las Casas argues that "Now no ruler, whether king or emperor, nor anyone else, can exercise jurisdiction beyond his borders, since borders or limits are so called because they limit, determine, or restrict the property, power, or jurisdiction of someone." and " The gate to this city (that is, the Church) is baptism." Las Casas, *In Defense of the Indians: The Defense of the Most Reverend Lord, Don Fray Bartolomé De Las Casas, of the Order of Preachers, Late Bishop of Chiapas, against the Persecutors and Slanderers of the People of the New World Discovered across the Seas*, 80-81.

[8] "Considero que las pestilencias continuas que Dios les envía, con que poco a poco nos los va llevando entre las manos, no son por sus pecados, como algunos que tienen poca cuenta con los suyos imaginan, porque si esto fuera, enviara fuego el cielo que súbitamente los consumiera, ó una tal pestilencia que de golpe los acabara; mas antes á ellos les hace merced particular en sacarlos de tan mal mundo, antes que con el aumento del incomportable trabajo y vejación se les dé ocasión de desesperar, y antes que por nuestras codicias y ambiciones y malos ejemplos y olvido de dios, que cada van más en crecimiento, vengan a perder la fe, en los peligrosos tiempos que de hoy a mañana esperamos. Á nosotros nos castiga Dios en llevárselos, porque si los conservásemos con buena vecindad y compañía, la suya nos sería utilísima, siquiera para provisión de mantenimientos; y acabados ellos, no sé en que ha de parar esta tierra sino en robarse y matarse los españoles los unos a los otros; y asi de las pestilencias que entre ellos vemos no siento yo otra cosa sin que son palabras de Dios que nos dice: Vosotros os dais priesa para acabar esta gente: pues yo os ayudaré por mi parte para que se acaben más presto, y os veais sin ellos pues tanto lo deseáis. Y en una cosa veremos claramente que la pestilencia se la envía Dios no por su mal sino por su bien, en que viene tan medida y ordenada, que solamente van cayendo cada día aquellos que buenamente se pueden confesar y aparejar conforme el numero de los ministros que tienen, como ellos lo hacen; que unos en sintiéndose con el mal, se vienen por su pie a la iglesia, y… De donde podemos colegir que sin falta va hinchiendo Dios de ellos las sillas del cielo, para concluir con el mundo; y plega á Su Majestad Divina, que nosotros, con nuestra presunción de cristianos viejos y de muy entendidos y capaces, no nos hallemos burlados por haber hecho burla de los mal vestidos."Mendieta, *Códice Mendieta: Documentos Franciscanos, Siglos Xvi Y Xvii*, LXIII, 28.

either as a result of their own "disorganized" lifestyle or because Spanish demands "consumed" them. Both debates went back to Spanish ideas about the "disposition" of the body, and both implied remedies, from congregation to the reform of Spanish government. In this way the depopulation of the Indians both strengthened and threatened the validity of the civilizing mission as a basis for Spanish belonging. On one hand the mortality of the Indians encouraged discourse on the congregation of the Indians into civilized and ordered spaces. According to proponents for congregation the Indians were dying because they simply did not know how to live properly. On the other hand, many Spaniards saw the mortality of the Indians as a failure of the civilizing mission, which "consumed" rather than protected the Indians. In general, these critics did not doubt the internal logic of the imposition of Spanish civilization; they just wanted to see the elimination of certain institutions, such at the *encomienda* and the *repartimiento*.

The Indians were frequently seen as an extension of the land, which was useless without them, and discourse on consumption spoke to the conservation of the kingdom. Sahagún even worried that New Spain would revert to wilderness because of the lack of Spaniards and the mortality of the Indians.[9] The loss of the *naturales*, as the Indians were increasingly called, threatened Spanish belonging and changed New Spain's natural landscape. Focusing on the relationship between land and mortality, this chapter attempts to describe the process of depopulation, and some of the day to day struggles of the Indians to both survive and maintain their lands.

It is impossible to know with certainty the extent of the loss or the pre-conquest population. Accurate records simply do not exist; those that do paint a picture of a thriving and populous empire and healthy lands capable of maintaining large populations. From the reports sent back to Spain as part of the *Relaciones Geográficas* in the1570s, we get a sense of the pre-conquest population and the extent of the loss in the following years. Writing about the pueblo of Tolnacuchtla, Alonso de Contreras reported that the area "could be of many more people" but that "with the *cocolistles* (literally great dyings)

[9] McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico.", 428. Author cites Moreno Jimenez, Historia general, III 355-361.

that the people had become few and died."[10] Christoval de Salazar accounted that in Cuatepec there had been more than ten thousand warriors, not counting other people in the time of the Indian's "infidelity" and that this was how the Spanish found it, but that starting around forty years earlier the number began to diminish due to the great pestilences.[11] Juan Tolossa Olea, *corregidor* of the pueblos of Citlaltomagua and Anequilco, reported that the area around Acapulco was very fertile with good rivers, but surprisingly few people. Upon questioning, the local people he was told that "before the Spanish came to these parts, there was a great population, in such number and quantity that they were *not able to count them*." but that they had all died in the pestilences and that "every year more die."[12] While these reports do not provide information useful for making numerical estimates, they all concur that the pre-conquest population was significant. Even as late as 1531, ten years after the conquest, Vasco de Quiroga described the population of New Spain by saying that the Indians were like the "stars or grains of sand, they *could not be counted*."[13]

Most of the work done on the depopulation of the Indians attempts to determine the logistics of the loss, but the very numberlessness makes it difficult to estimate the quantity of people lost in the epidemics of the sixteenth century or the starting population for New Spain. Most figures rely on the census conducted in 1570 by López de Velasco, who undertook the task of recording the tributary population of the Valley of Mexico. Using ecclesiastical records, López estimated that there were 125,000 tributaries in the

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[10] "[T]iene este dicho pueblo quatro cientos vecinos tributarios, enteros; solia ser de mucha mas gente y con las enfermedades de "cocolistles" que an thenido se an apocado y muerto." Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 24.

[11] "[H]ubo en esta provincia de Coatepec, mas de diez mill yndios de guerra, sin otra gente menuda, y que en el tiempo de su infidelidad las lomas, laderas y valles, deste pueblo estaban muy poblados y llenos de caserias y estancias de yndios, y en todas las quebradas, como paresce oy en dia por los paredones, cientos de casas y "cues" que en aque tiempo avia, y que ansi lo hallaron los españoles quando vinieron a la conquista; y después de pacifica la tierra lo a estado ansi hasta que de cuarenta años a esta parte poco mas o menos, por pestilencias grandes que a avido en diversos tiempos y años, se an disminuido en gran manera los naturales, y esta es la causa de que aya al presente tan poca gente en esta provincia, y ansi se cree que sera en las demas desta Nueva España." Ibid., 47.

[12] Emphasis mine. "[R]espondieron que en otro tiempo, antes que los españoles biniesen a estas partes, eran munchos y de muncha poblazon, en muncho numero y cantidad que no se podian contar, y por grandes pestilencias que a abido se an muerto todos y no an quedado mas de los que asta ahora y en la era agora estan." Ibid., 156.

[13] "[Y] porque hay tantos, que parece que son como las estrellas en el cielo y arenas en la mar, que no tienen cuento y no se podría allá creer la multitud de estos indios naturales." Quiroga, *La Utopía En América*, 62.

Valley, implying a population of between 325,000 and 350,000 men, women and children.[14] Historians such as Charles Gibson have then taken this number and multiplied it by the amount that eye-witnesses reported as loss to come up with a starting population figure. For example, in 1565 Mendieta estimated that the population had declined between two-thirds and five-sixths and the Indians of Xochimilco reported that their population had gone from 30,000 to 6,000 or 7,000. Using this process he concludes that the Valley of Mexico had been home to some 1.5 million souls when Cortés first arrived.[15] To calculate the loss occurring after 1570, which was significant, Gibson uses tribute counts, and labor draft estimates, arriving at a figure of around 70,000 for the nadir population in the mid seventeenth century, with an increase to 120,000 by 1742, and 275,000 by 1800.[16]

Thomas Whitmore has slightly different findings, especially concerning the nadir population. Using calculations done by Rosenblat (1967) Gibson (1964) Sanders (1976) and Gerhard (1972) in conjunction with factors such as famine, food production and consumption, Whitmore puts the original population for the Basin of Mexico at around 1.59 million people, which is very much in line with Gibson. Likewise he sees the same basic rate of decline, noting that the first sixteen years saw the most drastic change as the population dropped by 54%. However, Whitmore estimates the low-point to have taken place much earlier in 1607 (the same year that Martínez started construction on the Desagüe) with an estimated 183,000 Indians in the Valley.[17]

This chapter attempts to describe this process from the Spanish perspective. Rather than look for numbers, it focuses on Spanish ideas about death, the body and land, examining Spanish ideas about pestilence and mortality both on the peninsula and in New Spain. This analysis of Spanish medical theory not only provides a background for understanding the behavioral explanations put forward in this generation and this chapter, but the ideas of Cárdenas, Martínez, and Cisneros in the next. During the sixteenth

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[14]Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 137.

[15] Ibid., 138.

[16] Ibid., 141.

[17] Whitmore, *Disease and Death in Early Colonial Mexico: Simulating Amerindian Depopulation*, 197. Also see: McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico." & Borah and Cook, *The Indian Population of Central Mexico, 1531-1610*.

century epidemics wracked parts of Southern Spain, but unlike previous epidemic of plague, many of these epidemics were not universal, and like the epidemics of New Spain seemed to be selective. While doctors in Spain blamed the mortality on factors such as contagion, astral influences, poverty and "indisposition," Spanish officials and clerics in New Spain blamed the mortality of the Indians on the "consumption" and "disorganization" of the Indians.

I: Spanish Medical Theories on Pestilence

Over the course of the sixteenth century, pestilence also picked at Spain. The bubonic plague, which had devastated Europe in the epidemic known as the Black Death of the 14th century, reappeared at the beginning of the century, and other pestilences picked at the coastal areas throughout the century. As we saw in chapter two, many blamed these epidemics on providential disfavor, but many doctors attempted to find natural explanations for them.

Until the mid nineteenth century, the most widely accepted material explanation for pestilence was corrupted air. This corruption could have many causes, and theories abounded, but it was fairly universally believed that the damage came from contact with it. Juan de Caravajal, a Sevillian doctor, explained that the hot air affected the heart, which constantly needs air, saying that fresh air revived the heart, while hot and humid air, "as it is pestilential air" offended that organ which shared the same qualities, and thus according to Aristotelian doctrine facilitated the passage and the contagion. Carvajal cited Hippocrates, noting that the hot and humid south wind at mid day had a particular property to engender and sow pestilence in all ages and all complexions wherever it passed. Likewise, he noted that according to Galen air which had passed over the unburied and unburned bodies after a battle, or tanneries, slaughter houses, or water laced with flax or esparto grass or rotten lagoons might also be pestilential.[18]

Modern epidemiology has demonstrated that the fleas (*Xenopsilla cheopis*) which carry Bubonic Plague can only survive under specific circumstances, requiring a

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[18] Juan de Carvajal, *Breve Comission De Doctores Antiguos Para Saber De Pestilencia, Sus Señales Y Remedios. Con La Qual Se Satisface a Otra Que Sevilla Juntó, Para Averiguar Si El Mas De Este Año De Mil Y Seyscientos Era Pestilencia, Como La Del Passado....* (Sevilla: Rodrigo Cabrera, 1600).

temperature between 15˚ and 20˚C with a humidity of 90% to 95%. The fleas die if the humidity drops below 70%.[19] So when these Renaissance doctors predicted plagues based on heat and humidity, they were not far off. This type of association is evident in the verse of López de Corella.

En el tiempo muy pluvioso	In times when it is rainy
Por aver mucha humedad	Because of the great humidity
Es el año peligroso	The year is dangerous
muy mucho contagioso	And very contagious
Como muestra la verdad	As is shown by the truth
Pues si ranas ay sobradas	That if frogs abound
Muy húmedo será el año	Very humid will be the year
Por esto nos viene daño	And because of this, harm comes to us
Y enfermedades malvadas[20]	And fiendish illnesses.

While germ theory would not be accepted until Pasteur in the 19th century, there was also considerable awareness of material contagion. This was especially true with the case of *bubos*, which was fairly well understood. According to Predro Arias de Benavides the most frequent cause of *bubos* was relations with "unclean women." However, he allowed that the illness might also arise from a corruption of the humors in the body, as must have been the case for the first person to have the illness. He claimed to have seen this sort of *bubos* among "very honored clerics, who could not be doubted," and he sought to restore their honor from suspicion. Arias believed the first type, the contagious kind, to be more easily cured.[21] Juan Calvo, a surgeon from Madrid, pinpointed the spread of *bubos* to a battle in Naples, where French, Spanish and Italian troops apparently had access to some of the Indian women brought by Columbus on his first voyage.[22] Calvo noted that in the Indies bubos was very common. He blamed this on the fact that the Indians were "very luxurious, mundane, [and] voracious, not only eating the meat of animals but even of

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[19] Carreras Panchón, *La Peste Y Los Médicos En La España Del Renacimiento*, 78.

[20] Ibid., 95.

[21] Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos*, 73.

[22] Calvo published this text in Barcelona, but Piñero and Pardo locate him as a surgeon in Madrid. José María & Pardo Tomás López Piñero, José, *La Influencia De Francisco Hernández, 1515-1587, En La Constitución De La Botánica Y La Materia Médica Modernas* (Valencia : Instituto de Estudios Documentales e Históricos sobre la Ciencia, Universitat de València, C.S.I.C, 1996), 152.

men."[23] In Calvo's mind Indian sexual voracity was related to their cannibalism, and the cause of *bubos*.

The Spanish Imperial project furthered and to a degree institutionalized this interpretation. For example, in 1585 a Royal Disposition was sent out to the Galleons warning against carrying people or clothes that might spread and propagate pestilence in New Spain.[24] Likewise the Viceroys Velasco and the Conde de Monterrey maintained doctors to inspect the ships coming in with blacks for "infectious disease."[25] The transmission of disease from Spain was an issue of constant concern. In 1599 the Conde de Monterrey wrote back to the king, that he was very careful with the arrival of the *flota* of Juan de Garibay as "Seville remains so lost." He worried that the introduction of pestilence in New Spain would hurt the Spaniards and might "finish off the Indians, as they are so *skinny*."[26] Writing about the same pestilence in Spain, Manuel Escobar, a doctor from Madrid noted that the epidemics of the ports of Santender and Laredo had been attributed to infected clothing.[27] He said that these epidemics caused the whole kingdom to "take up arms, shutting the doors of the villas and places, so that such a strong and powerful enemy could not enter or attack."[28]

The *flotas* were monitored for deaths, and the Royal Council closed ports and gates in cases of extreme threat. However, it seems from Escobar's letter that even if there was risk, the loss of trade was considered to be a greater risk, and ports were seldom closed. Describing the nature of the situation, Escobar lamented that the doctors, whose task it

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[23] "Porque en las Indias, es muy común y familiar, por ser como eran ellos, muy lujuriosos, mundanos, voraces, que no solo comían carnes de animales, mas aun de hombres, Tanto que en los banquetes y combites solian matar los esclavos que tenían y los asaban y comían según en las historias de las Indias, podemos ver de este parecer son muchos y gravísimos doctores como Musa, Falopio, Ioanes de Vigo, y otros muchos, los quales concluyen tener en estas partes las bubas, origen de aquellos Indios, y de este mesmo parecer soy yo." Juan Calvo, *Libro Muy Útil Y Provechoso De Medicina Y Cirurgía, Que Trata De Las Cosas Naturales, No Naturales Y Preternaturales, De Las Indicaciones, Humores, Y Apostemas, Assi En General Como En Particular* (Barcelona: Jayme Cendrat, 1591), 156, 156v.

[24] AGN, *General De Parte, Vol. 6, Exp. 712, F. 260v* (1603).

[25] Ibid.

[26] Emphasis mine. "Dio me gran cuydado la salud de la flota por quedar sevilla tan perdida y ser este un mal que menos cabara por aca los españoles y acabaralos indios por su flaqueza." AGI, *Mexico, 24 N. 26,04-10-1599, Cartas Del Virrey Conde De Monterrey (1595-1603)* (1599).

[27] As we will see later he disagrees with this, arguing that if it were the clothing the epidemic would not have stopped abruptly as it did.

[28] Escobar, *Tratado De La Essencia, Causas Y Curación De Los Bubones Y Carbuncos Pestilentes: Con Otras Muchas Cosas Concernientes a La Misma Materia,* 13.

was to assess the danger of a given epidemic, would always play down the risk in their reports to the Council, who would then open the doors of the city.[29] Likewise a Sevillian municipal official writing in 1652 to the king about the reception of the *flota* coming from the Indies, asserted that although there was some concern about illness in Veracruz and the death of two or three crewmen at the onset of the journey, he doubted the effects of closing the ports. To justify his decision, he recounted an incident a few years prior when an infected ship of esparto coming from Alicante was denied entrance fruitlessly and all of Andalucia was struck with the plague anyway. Reminding the king that these ships hold "all the treasure of this monarchy" he opined that putting a prohibition on the cargo "would only serve to afflict the spirits [of the people]." He then, thanked God's mercy for the apparent safety of the shipment, saying that "we know that with so many people and clothing disembarking there might result some illness."[30] The trans-Atlantic

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[29] "[Y] es, que cuando por orden del Real Consejo, van médicos a visitar los tales lugares, nunca hallan mas que tres o cuatro o seis enfermos, los cuales no escandalizan por ser pocos, y os propios Médicos (ignorando esto) se alientan y animan: y dicen que en un lugar como aquel de quinientos vecinos, ha haber mas que seis enfermos, es cosa de risa, y de que no hay que hacer caso, llevan a su parecer muy buena relación al consejo, la quel oída, se abren las puertas de Madrid, para que el tal lugar inficionado entre y salga libremente: siendo muy cierro que los médicos se engañan en el caso y aun los engañan en los tales lugares: y assi ellos como los señores de Consejo quedan engañados, que no lo quedara si los tales Medicos dijera, yo halle señor seis enfermos de Bubones pestilentes, y no me parecieron pocos conforma a la constitución, porque es desta naturaleza, que assi poco a poco va haciendo su operación: por la razón que esta dicha, es cierto, no dejaran entrar en Madrid no en otras partes a los que puede llevar muchas partes: y aunque esto es ansi no me puedo persuadir que ha venido en España por este camino, sino por el que tengo referido en este capitulo." Ibid., 14.

[30] "Acabo de recibir su carta de Vsa, haziendo la estimación que debo, y lo que puedo dicir a VSa en Ra---n de la sospecha que traen los Galeones y flotas del contagio que se havia padecido en la Veracruz, el remitir a Vsa Un capitulo de la carta que escribió a Su Magistad el General Don Juan de Echevirria que fue la primer noticia que tuve, de que humiesen padecido alguna enfermedad los puertos de las Indias, y me parece que en esta materia, no callaría a Su Magistad, cosa tan de la obligación de su cargo. Después me informaron que ala venida an muerto a dos y a tres, en algunos naos, y que esto fue los primeros días de la navegación a España, y que salieron en fer-os de las Indias, pero que después an continuado el Viaje sanos (gracias a dios). Esto todo me puso en cuidado, pero acordándome, que acra tres años una sola nao cargada de esparto que se supo que trajia ropa apestada de Alicante, aunque no la admitimos, fue imposible, resguardarnos della, y pico la peste ala Andalucía, me pareció que tan poco lo fuera diligencia alguna in orden aso con 50 naos que, que entraron, entre Galeones y flotas, en que venia todo el tesoro de esta monarquía, y mas habiéndose reparada en este Inconveniente quando ya estaba desembarcado todo lo demás que venia en ellas y assi he tenido agora mas conveniencia, que esto se disimule fiando el sujero de la misericordia de Dios, que no alterar a España, con miedos inciertos y con unas prohibiciones que solo había de servir de afligir los ánimos mas no preservarme de la comunicación de la ropa, quando a prohibición, no podía resultar otra cosa. Y por la misericordia de Dios a salido bien este Inicio, porque sabemos que de tanta gente y ropa como se ha desbarcado, aya resultado enfermedad alguna." Archivo Municipal Sevilla, *Sección 4 Siglo Xvii, Numero 81*.

trade increased awareness of contagion, even if the mechanism of "infection" were not thoroughly understood.

However, contagion was by no means the dominant paradigm and other explanations, such as winds, which are generally seasonal, and astral accounts had the advantage of explaining the timing and duration of epidemics. As Escobar pointed out, heavenly influence was the only way to explain why the last pestilence ended so suddenly, "in one day." Escobar agreed that it might be true that the illness affecting Spain in 1590 was "born" and spread from town to town and person to person via the "seeds of contagion," and he conceded that burning the clothes and houses of the infected was still a good safe guard, but he argued that this did not explain why it should have stopped so suddenly. Escobar noted that if the recent pestilence had indeed been caused by a contagion contained in the clothing, it would have continued indefinitely, but this was not the case, as it "stopped in one day." For this reason, he argued that some "sinister influence," of the stars must have played a part.[31]

Astral interpretations were most often attributed after the fact, or used to predict harm in enemy or far away lands. For instance, Leonardo Ferrer, who was writing in 1681, argued that the conjunction of 1524 in Pisces not only caused the great pestilence of Milan, but also the conquest of Hungary by the Turk, and the imprisonment of King Francisco of France.[32] Guido de Chauliac, writing in Venice in 1520 attributed the plague of 1345 to the conjunction of Saturn, Jupiter and Mars in the sign of Pisces the 24 of March 1345. (This was also the official response from Paris at the time.)[33] While Antonio Nuñez y Zamora believed that the same conjunction occurred in 14 degrees

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[31] "[Y] de aquí viene que un lugar queda destruido, otro no tanto, y otro sin ser tocado de tal mal: y es sin duda que si essos males vinieran por las semillas del contagio que en la ropa quedo, aunque el adverso influjo del cielo faltara, ni cesará el daño, habiendo contacto con la ropa que tuvo el contagio, y se ha visto y se ve claramente haber cesado essa plaga en un día, y aunque no haya habido recato en la ropa de los muertos y enfermos, solamente haberse reparado, sin que haya un enfermo ni mas, luego claro es que el daño no se causo por el que tenia la ropa, sino por el siniestro influjo, el cual cesando, ceso su efecto, y asi cesaron las enfermedades como manifiestamente se ha visto." Escobar, *Tratado De La Essencia, Causas Y Curación De Los Bubones Y Carbuncos Pestilentes: Con Otras Muchas Cosas Concernientes a La Misma Materia.*

[32] Leonardo Ferrer, *Cielo Favorable, Para La Invicta, Y Gran Monarquía De España, Manifestado Por Los Dos Superiores, Y Más Elevados Planetas, Saturno Y Júpiter, En Su Magna Conjunción, Que Se Celebrará En El Ceilo, El Año 1682, Á Trienta Del Mes De Octubre, Á Las 10 Horas, 54 Minutos Del Día, En El Signo Del Coronado León* (Valencia: Francisco Mestre, 1681).

[33] Carreras Panchón, *La Peste Y Los Médicos En La España Del Renacimiento*.p. 68

Aquarius. This pestilence, Nuñez noted, was so diabolical that it did not only "stick" in the normal way, through clothes or houses of the ill, but one only had to look at an infested person and you would be "stuck" with the illness.[34] Predictions generally looked far afield. For example, Juan de Puget predicted that the comets of 1618 would cause "wars, revolutions, treachery, *pestilence*, fires, and earthquakes," but he assured the king of Spain that, "of all of Europe, he that shall be least affected by these injuries will be Your Majesty, and your states (may God augment them)."[35] Similarly, Fray Juan Fulgencio Sotomayor predicted that the appearance of the new star in 1604 would have the following affects: hunger, *pestilence*, many and dangerous illnesses, wars robberies, traitorous deaths of kingdoms, mutinies of soldiers, rebellions in the northern parts and the loss of provinces, division of the kings in Africa and part of Asia or the death of many people of letters…"[36]

While astral influences, contagion and corrupted air explained the causes of pestilence, "disposition" explained mortality. For as Juan Calvo, a doctor from Barcelona, noted, not everyone was affected by a pestilence. Calvo argued that mortality patterns were explained by the "disposition" of the body. If the body were "badly complexioned" it might become infected early, while "well complexioned" bodies might never become infected. Calvo compared this to fire, "which is more disposed to burn and

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[34] "Daba con rejectiones de sangre de el pecho agorgojadas por la boca que llaman los médicos haemoptoyca pasión: y que a lo mas largo mataba dentro de tres días. Y que era tan endiablada la peste, que no solo se pegaba como las demás comunicando, conversando con los apestados, o tomando ropa, o casas, que ellos hubiesen traído o tuviesen con sigo, sino que de solo que mirarse un apestado o otro, se le pegaba, como el Basílica, que con sola la cista inficiona y mata.....Y que con esta furia dure por los dos meses primeros. Y después de este tiempo mentida algo su malicia, no mataba antes de el quinto día. Y que en lugar de esputos de sangre daba con carbuncos, antraces y landres y otros tumores pestilentes, y llagas corrosivas, pero que naturaleza echaba el veneno afuera." Antonio Nuñez y Zamora, *Liber De Cometis Ine Que Demonstatur Cometam Anii 1604 Fuisse in Firmamento. Y En Romanze El Juyzio De La Maxima Conjunction Del Año De 1603 Y De Este Mismo Cometa Y De La Conjunction De Iupiter Y Marte Que Le Encendio* (Salamanca: Viuda de Antonio Ramirez, 1610), 48-49.

[35] "[S]us efectos serán guerras (no hablo por lo que por razón de mi oficio se) revueltas, traiciones, pestes incendios, terremotos. Aunque quien menos participara en Europa de estos daños, será V. Magestad, y sus estados (que Dios le aumente.)" Juan de Puget, *Breve Y Curiosa Relacion Del Discurso Ha Hecho Moussur Juan De Puget, Ayuda De Camara Del Rey Christianissimo, Y Su Secretario Del Consejo De Guerra, Sobre Las Cometas Que Han Aparecido Este Año De 1618.....* trans. Diego Alvarez de Salcedo (1618).

[36] "Hambre, peste, enfermedades, muchos y muy peligrosos, guerras, robos, muertes a traiciones de Reines, mutines de soldados, turbaciones y rebeliones en las partes septentrionales perdidas de Provincias y división de Reyes en África y parte de Asia o muerte de muchas personas de letras…" Fray Juan Fulgencio Sotomayor, "Tratado Breve Sobre La Estrella Aparecido a 8 De Octubre De 1604," (1604).

char a dry wood than a green one for not being disposed, because [they dry wood] is more disposed to receive the fire, and the green wood is less so, because of the humidity that it has, that is contrary to fire, and the fire cannot consume it, until the humidity is expelled or consumed." Just as fire could not consume green wood until it was ready, "much less can an illness infect men and women who are not disposed to it."[37]

Complexion was thought to contribute to disposition, or at least modify the way that bodies experienced the same illness. Juan de Carvajal, explained (often quite humorously) how the same illness might affect different complexions. He noted that people with a Sanguine complexion might suffer symptoms such as "inflammation, anguish, abundant fainting spells, spiting blood, bloody nose, coughs, and enmity without reason." While the phlegmatic might have, "symptoms of phlegm, like an idle man, snoring, stretching, dreaming like a porter that the company of Alva will not wake up although within earshot, with the quietude of a seamstress seated and poor…. cold in the extreme, passed out for having the phlegm stuck in the bowels, wet in the tongue (like Salvadors), with little desire to eat."[38]

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[37] "Concluyamos pues, diziendo que en tiempo de peste, la causa por la qual unos mas presto y otros mas tarde, se infeccionan, es la disposición de le cuerpo; que cuando el cuerpo esta muy mal acomplexionado, luego, y cuando no, tanto mas tarde: y si bien acomplexionado, nunca infeccionara. Lo mismo acaece en esta enfermedad: y no solos, acaece esto en nuestros cuerpos: mas aun en las demás cosas naturales. Que el fuego, mas puesto quema y convierte en ceniza y carbón, un madero seco, que un verde, por estar mas dispuesto para recibir el fuego; que el verde como no ese bien dispuesto, por causa de la humedad que tiene, que es contraria el fuego, no le puede consumir, hasta tanto, que la tal humedad esta expelida, o consumida: como notaron muy bien Alexandro, Temistio, y sobre todos Philopono. Luego, si el fuego con ser agente tan natural, no puede consumir el leño verde, hasta que esta dispuesto: mucho menos esta enfermedad, podrá inficionar a los hombres ni mujeres en ellos no hay las disposiciones dichas…" Martínez also uses the metaphor of green and dry wood, as we will see later, when discussing why the heavens should produce intelligence in creoles, but not in the blacks, mulattos and mestizos of the kingdom. Calvo, *Libro Muy Útil Y Provechoso De Medicina Y Cirurgía, Que Trata De Las Cosas Naturales, No Naturales Y Preternaturales, De Las Indicaciones, Humores, Y Apostemas, Assi En General Como En Particular*.

[38] "[E]n el sanguino habrá accidentes de sangre como carbúnculos, mortificaciones, desvaríos, sueños, sudores, tumores de bajo los brazos, y en las ingles, fastidios del estomago, inflamaciones, angustias, desmayos de abundancia, escupir sangre, salir por las narices, ronchas, rifas sin razón, sin orden ni propósito, sin otros accidentes particulares, de la parte donde la sangre acudiere: porque subiendo se a los ojos los para colorados, a las mejillas bermejas al pulmón causa dolor, y al pecho tos y lo ahoga, y mátala persona." "si fuere flemático al acometido (que menos vez suele) tendrá accidentes de flemas, como de hombre ocioso, bostezos, esperezos, sueño como de ganapán, que no lo despertará la compaña del alva aunque la tanga al oído, quietud como de costurera asentada y pobre. Serán tardíos para responder como Harpocrates Dios del Silencio, frialdad de extremos, desmayos por tener la flema pegada en las tripas, humedad en la lengua (como salvadores) mala gana de comer." Carvajal, *Breve Comission De Doctores Antiguos Para Saber De Pestilencia, Sus Señales Y Remedios. Con La Qual Se Satisface a Otra Que Sevilla*

Disposition was also related to habits, lifestyle, and affluence. Manuel Escobar, a doctor from Madrid, who wrote about the pestilences taking place in there in the early 1590s related disposition with drinking. He contended that if men could only moderate their drinking, "there is no doubt that they would live longer lives, and resist better the adversities and bad influence of the heavens."[39] Disposition was also attributed to accidental or involuntary circumstance, such as a famine. For example, the same author noted that in general Spaniards followed good habits, procuring life like the Epicureans, only straying from that out of necessity, such as in the past few years, when there was a shortage of bread, wine, and meat. Because the wine had been very bad it sold cheaply and Escobar related that "the poor taking advantage of this, [had] done themselves great harm." He argued that this poor quality wine engendered bad humors, which "obstructed the pores of the body, and this in combination with the contrary heavenly influence have caused the influx of malignant fevers." He argued moreover, that this famine had been a key factor in determining mortality of the last epidemic, and that for this reason the present "illness of dryness and *bubones*" could not be considered a true pestilence; a true pestilence infected all manner of people with all kinds of habits, and the present illness only affected the poor. Escobar declared that out of one hundred and fifty cases he had seen in the previous fifteen days, not one "could give me a chair to rest in."[40]

Although these epidemics did not depopulate Spain the way that the epidemics of New Spain reduced the Indians, they nevertheless created a rich discourse on mortality and epidemics. Blaming contagion, the "sinister influence" of the stars, famine and poverty, Spanish doctors depicted pestilence as a common occurrence on the peninsula. These epidemics probably also inured Spaniards to a degree, to the incredible loss taking place in New Spain, as it was not uncommon at home. However, as we shall see, the mortality of the Indians not only encouraged discourse about poverty, drinking, and disorganization, but about "consumption."

Juntó, Para Averiguar Si El Mas De Este Año De Mil Y Seyscientos Era Pestilencia, Como La Del Passado....

[39] Escobar, *Tratado De La Essencia, Causas Y Curación De Los Bubones Y Carbuncos Pestilentes: Con Otras Muchas Cosas Concernientes a La Misma Materia,* 8v.

[40] Ibid., 29.

II. New Spain

Natural Explanations

Unlike the situation in Spain there were not many doctors, or men of science in New Spain. However two medical texts from this period deal with Indian mortality. The first is Francisco Bravo's *Opera Medicinalia*, which was printed in Latin in 1570. Bravo attributed the mortality of the Indians to *tabardete* (typhus), which he described as pestilential. He noted that patients suffered "intense fever" persisting without intermission for several days, as well as "great distension of the veins, [and] severe aches and pains all over the body, especially in the head." At one point patients became comatose and delirious. They had red faces, thick reddish urine, large fast pulses, intense thirst, dry brackish tongues and rash "like mosquito bites" some red and some livid or black.[41] He thought that *tabardete* was caused in part by the bad air around Mexico City.

Francisco Hernandez, who was in residence during the 1576 outbreak of the cocoliztle described the illness in great detail, but gave no indication for its cause, except to say that it was "contagious." According to Hernandez the cocoliztle caused swelling behind the ears, putrification of the blood, a high fever, a shallow pulse, and bleeding from the nose and other orifices. The principle victims, according to Hernandez, were the young and very old, and it hit harder in the colder regions, and first in areas of Indians, and then later areas of Africans, finally affecting the Spanish. Hernandez noted that the climate of New Spain was ripe for breeding putrid air, being cloudy but without rain and that Indian drinking and the ingestion of corn and chili also produced profuse bile and blood. He listed remedies, which included many native plants including *totycxitle*, *cacamotic*, and *coanenepilli*, saying that they were able to use cures to good benefit.[42]

Most of the discourse on Indian mortality and the health of New Spain came from clerics and Spanish officials. This discourse provides an interesting glimpse into the

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[41] Francisco Bravo, *Opera Medicinalia....Printed in Mexico*, 2 vols. vols. (Folkstone and Londres 1970 (1570)), 61-62.

[42] Varey, ed, *The Mexican Treasury: The Writings of Dr. Francisco Hernandez*, 83-84.

dispersion of medical knowledge, and the way Spaniards understood what it meant to be healthy, and the relationship between the environment and disease.

For the most part, Spaniards thought that New Spain had a healthy climate. Most respondents to the *Relaciones* felt that the regions that they occupied were healthy, but the precipitous decline of native populations frequently complicated this understanding. Juan Bautista y Pomar related that the area was healthy, and that the Indians of Texcoco had lived very healthfully before the Spaniards arrived. According to his sources, the Indians had not known pestilence, and only died of old age or the tenderness of youth. They had been so healthy that they had believed that to die in any other period of life must be the result of some augury. Since that time, Bautista noted the region had lost nine-tenths of its population. [43] He noted that syphilis was among the illnesses common in the area, but that the *bubos,* were "very few, and they do not affect, nor penetrate into the bones or interior parts the way they do with the Spanish."[44] Similarly, Andres de Curiel, a corregidor believed Totolapa to be very healthy, "without either excessive heat or excessive cold." Curiel listed among the normal sicknesses: fevers, pains in the side (kidney infections) and *bubos* (Syphilis), which the Indians cured with herbs and by cutting into the flesh where they felt pain. [45] Alonso de Contreras y Figueroa claimed that the land around Yetecómac was "healthy," but that *tabardete* and another disease that made the Indians crazy were common. According to Contreras, the latter illness "caused death in three days, affecting the heart, it caused blood to come from their noses, and caused a great headache."[46] Here Contreras seemed to distinguish *tabardete* from the same symptoms described by Hernandez for *cocolistle*. Alexo de Murgia, the *juez repartidor*, claimed that the area around the mines of Zimpan enjoyed such a good and

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[43] García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 50.

[44] Ibid., 52.

[45] "[L]a tierra es sana y de buen temple, donde no haze excesibo frio ni calor. Las enfermedades mas ordinarias son calenturas, dolor de costado y bubas: curanse con yerbas, punzanse algunas bezes y otras se sajan donde sienten dolor.", Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 10.

[46]"[E]s tierra sana; las enfermedades que entre ellos ay es tauardete y otros que se buelven locos y dizen se les cubre el coraçon, y dende a tres o quatro dias mueren, salenles sangre por las narices, tienen grandes dolores de cabesa; curanse con estafiatle, que es una yerba que llaman ensiencios, echada en agua, y con aquella se rocían y vañanse." Ibid. , 21-22.

healthy climate that the recent pestilence (of 1575) was hardly felt there.[47] Writing from Teucaltiche in Nueva Galicia, the *corregidor* looked to both providential and natural interpretations for the mortality. He argued that the "cocolistle" was "contagious" and that those who were "stuck" with it died, many within a day and half or less. He argued that the cause was not the "settlements," which he thought were "very healthy and of good clime and heavens," but rather were sent by God "for our sins."[48]

However, Spaniards thought that parts of New Spain were very unhealthy. They were especially wary of "hot lands," and considered residence in them to be a special service to the Crown. For example Archbishop Pedro Moya y Contreras wrote the king that he would be the first to visit Tlachco, and other towns in the "hot lands," such as Huasteca, "even though it is so unhealthy and [therefore] notoriously dangerous."[49] Likewise, Francisco Domínguez a Royal Cosmographer who worked under Hernandez, constantly referred to the jeopardy he faced during his travels in his "*meritos y servicios*." Declaring that he had put his own life at risk in the service of the crown, he noted that the provinces of Cozumal and Tobasco were "disperse, mountainous and of different and unhealthy climates."[50] Respondents to the *Relaciones* also complained of "unhealthy" lands. Christobal Perez Puebla, *corregidor* of Huexutla described the area as unhealthy. Not only was the land hot, but for a month before and after Christmas a cold north wind blew which distempered the bodies of men, causing many infirmities of fevers. The *corregidor* also blamed the Indian's habit of bathing. He noted that the local "cure," called *temazcal*, involved sweating, "which is like a bath," and he argued that as a result of it, "many die."[51]

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[47] "[E]l temple es bueno y muy sano, en tanto grado que la pestilencia de los dos años pasados apenas se sintio en estos partes." Ibid., 2.

[48] "[C]ocoliztle, que es enfermedad contagiosa que se pega, y mueren, a los cuales da, dentro de un día, y de medio día y menos….la causa se entiende que no está en las poblazones, porque son muy sanas, y de buen temple y cielo, sino en si Dios nos eviase enfermedades y pestilencias por nuestros pecados." As cited in: Álvarez Peláez, *La Conquista De La Naturaleza Americana*, 299.

[49] Paso y Troncoso, *Epistolario De Nueva España 1505-1818*, Book XII, Item 705.

[50] AGI, *Patronato, 261, R.9, 1594, Méritos Y Servicios: Francisco Domínguez* (1594), 110.

[51] "[E]ste pueblo de Huextla no es sano, ni su carca, por ser tierra muy calida, y un mes antes de Nabidad y otro después, corren el viento norte muy frio en demasia, y esto destempla los cuerpos de los hombres y asi causan muchas enfermedades de calenturas, y bañanse los naturales y así se mueren muchos, y la cura que tienen es uno que llamen temascal donde sudan, que es como baño. Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 189.

Winds were frequently linked to mortality. Juan Tolossa Olea, *corregidor* of the pueblos of Citlaltomagua and Anenequilco related that the town of Cilaltomagua was of well situated with healthy air. He noted that the predominant wind was the *poniente*, the west wind, which was temperate and healthy but that on occasion a northerly wind runs caused "great harm to the *naturales*, because when [this wind] reigns it discomposes and corrupts the bodies of the *naturales*, from which arises many illnesses and fevers and other pains."[52] This cold north wind did not seem to have the same effect on Spanish bodies, or at least Tolossa did not mention it. On the other hand, Christoval de Salazar, the *corregidor* of Cuatepec, linked the southeast wind with infirmity saying that it was dangerous because it was warm and sick. Likewise he said that July and August were unhealthy times in Cuatepec because the sun burned down too much "which is harmful to the *naturales*."[53]

Just as Escobar blamed the mortality accompanying the pestilence of 1590 on famine, Bernardino de Sahagún blamed the mortality and "diminution" of the Indians on hunger and the fact that no one knew well how to cure them. Describing the epidemic of 1546, Sahagún declared that there would not be a college or memory of one, if it hadn't been for the assistance of Antonio de Mendoza, gave money from his personal estate to support the college. The Franciscan argued that the Indians "went in diminution" because there was no one who knew how to bleed or administer medicine, and because of hunger. He noted that the same thing was happening "in this present epidemic (1576-83), and will happen in those to come, until [the Indians] run out."[54] According to him, the epidemic was only deadly for lack of proper medical care and sustenance. Sahagún

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[52] Ibid., 157.

[53] "[Y] en especial por los meses de Julio y Agosto, en los dias caniculares, que es el tiempo quando el sol arde mucho en demasia que les es dañoso a los naturales…"Ibid., 44.

[54] "Si el señor don Antonio de Mendoza, que en gloria sea, visorrey que fue desta Nueva España, no los hubiera proveído de su hacienda, y un poca de rentecilla que tienen, con que se sustentan pocos y mal, ya no hubiera memoria de colegio ni de colegial; y pudiérase haber hecho gran bien a toda esta republica Indiana y el rey nuestro señor tuviera más vasallos en ella de los que tiene y tendrá, porque siempre van en disminución , y la causa que yo he visto con mis ojos es que en la pestilencia de agora ha treinta años, por no haber quien supiese sangrar i administrar las medicinas como conviene, murieron los mas que murieron, y de hambre. Y en esta pestilencia presente acontece lo mismo, y en todas las que se ofrecieron será lo mismo, hasta que se acaben. Sahagún, *Historia General De Las Cosas De La Nueva España* Vol 2, Book 10, p. 636.

worried that if the mortality continued, New Spain would revert to wilderness because of the lack of Spaniards.[55]

Behavioral Explanations

Depopulation encouraged discourse on the "disorder" of the Indians and the need for *policía*. Starting with Vasco de Quiroga, congregation was frequently cited as a method to preserve the Indians. Qurioga believed that congregation was the only way to save the Indians from a sure death. He feared that as the "native people [are] of such little strength…[they] will likely run out very quickly." This, he argued, could not be attributed to "other illnesses" but to "their great misery that comes from the lack of good *policía* and gathering together, and from living like savages away from good company of the cities in which they could help each other with their loads." He contended that it was this lifestyle that was the "true pestilence," but that not understanding this they applied other remedies. He opined that as of yet it was not too late, but that soon this land would resemble the islands or Tierra Firme, whose population died for "not having applied competent remedies to their illness…"[56] The remedy was order.

In a similar vain, Fray Domingo, a Franciscan residing in Chalco wrote to the king in 1556 arguing that congregation under the watchful eye of a curate was the best way to preserve both Indian bodies and Indian souls. Domingo lamented the poverty of the Indians, saying that their poverty was "readily seen by all, because they [had] very little food, and very little clothes, most going barefoot and with their flesh exposed." The gentle friar noted that the Indians slept on the floor with nothing but a rock or a log for heads.[57] Only those Indians who were under the care of the religious, who were given clothing and shoes, had a decent life. These Indians, Domingo declared, ate and drank and slept "like Christians and civilized people and not like brute animals." Noting that the Indians who did not live in or near the congregations lived "like savages, in great vice and sin," he recommended that the King join together these people, every year a tenth of

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[55] McCaa, "Spanish and Nahuatle Views on Smallpox and Demographic Catastrophe in the Conquest of Mexico." p. 428. Although weirdly he cites Moreno Jimenez, Historia general, III 355-361

[56] Quiroga, *La Utopía En América*, 109

[57] Here we see material possessions as a cultural symbol of poverty.

the population. He argued that in this way, within ten years all of the Indians would be in their congregations, "where they would find remedies in their *bodies* and in their *souls*."[58]

According to proponents for congregation the Indians were dying because they simply did not know how to live properly. In a letter dated 1588, the Viceroy Marques de Villamanrique wrote that it had been a good year in the kingdom, noting that the land was full of *bastimientos*. But this, he added, "does not keep sickness from picking at the Indians." He noted that sickness remained in many pueblos and said that "it seems to be an ordinary *custom* that every year many die." The viceroy speculated that it was their manner of living, "which for the most part is *disorganized* and *careless*," that caused this mortality.[59]

In the reports sent back for the *Relaciones Geográficas* we see similar equations of disorder and death. Most frequently, respondents blamed the current situation on a perceived lack of discipline, which led to idleness, drunkenness, and disorder. As we saw above, Juan de Tolossa Olea, corregidor of Anequilco, described the effects of a cold north wind, but he also believed that the "disorder" of the Indians contributed to their mortality. He reported that the Indians of Anequilco and the whole province were "very disorderly, without any sort of order in their illnesses, which is why many [were] likely to die, without any remedy whatsoever." Tolossa believed that this lack of remedy meant

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[58] Emphasis mine. "La hacienda que tienen comúnmente todos los indios es tan poca y de tanta miseria que se puede decir suma pobreza, según y como todos claramente lo vemos: porque su comer de los indios es muy poco su vestir también porque todos o los más andan descalzos y las carnes de fuera, su dormir es en el suelo y por la mayor parte una piedra o cuando mucho un palo a la cabecera; sino los que están en alguna policía en que los religiosos los han puesto que tapen sus carnes y anden calzados y comen y beben y duerman como cristianos y gente política y no como animales brutos; y comúnmente los que viven fuera de congregación por los montes y valles viven como salvajes y en grandes vicios y pecados; por tanto serenísimo príncipe me parece que vuestra alteza debe mandar que con todo cuidado y solicitud de procuren de juntar todos los pueblos desta Nueva España cada año la décima parte siquiera de manera que en tiempo de diez años estén juntos todos en sus congregaciones a donde serán remediados en los *cuerpos* y en las *animas* y de esta manera podráse tener cuenta y razón con lo que tributan: porque como agora viven y hasta aquí han vivido reciben muy gran detrimento en lo temporal porque les piden los principales lo que quieren y como es gente pobre y pusilánime no se saben quejar especialmente no teniendo presente al padre espiritual o a los alcaldes y gobernador: en lo espiritual serán asimismo remediados porque se terná cuenta con los que nacen y con los que se mueren y con los que se confiesen o no y con los que viven según la ley de cristiandad o no." Ibid., 264.

[59] Emphasis mine. "Este año ha sido muy bueno de temporal y así esta la tierra llena de bastimentos con que se prometen buenos sucesos en el estado de todo aunque la enfermedad de los indios no a dejado de picar. en muchos pueblos y parece que haya siendo esto costumbre ordinaria de que todos los años mueran muchos yo procuro que sean relevados de los trabajos cotidianos mas su modo de vivir que por la mayor parte es desordenado y de poco consideración causa en ellos Tempranas muertas." AGI, *Mexico, 21, N.52, 1588, Cartas Del Virrey Marques De Villamanrique (1585-1590)* (1588).

that the Indians died "for very little" even a little fever.[60] Another respondent, Captain Lucas Pinto, reported that in the village of Oztoman the Indians had previously been much healthier than they were presently, and he noted that "[the Indians] think that it [was] because the people [were] more idle, and [didn't] work as hard as before." While many looked to hunger as a contributing cause in mortality, this official claimed that his informants blamed the current abundance of food, saying that before "the common Indians could not eat meat, or hens, or drink wine, which now they [did] in excess."[61] He noted that during the time of their infidelity they only got drunk during festivals, "and this was done by the *principales*, and *maceguales* (commoners) could not drink wine under the pain of death."[62] This is a classic behaviorist argument. Pinto credited the Indians themselves with this opinion, implying that they might welcome more discipline. The motivations of other respondents were less veiled. For example Alonso de Contreras y Figueroa, the *corregidor* of Yetecómac, said that the Indians were "not healthy." He attributed this fact to their "drunkenness" and "idleness."[63] As we saw in the last chapter this same author claimed that if the Indians were not forced to work, they would spend their whole lives naked laying under a maguey plant.[64]

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[60] "[S]on los naturales destos dichos pueblos y aun de toda la comarca muy desarreglados, sin orden alguna en sus enfermedades, que a esta causa suelen murir munchos y sin remido alguno, pro que de pocas enfermedades o de no nada bienen a estar muy enfermos y murir por poca ocasión, que estando con calenturas, ques el comun mal que suele dar a estos, se ban a los rrios y se bañan, de manera que con la calentura, y el bañar que hazen, se pasman o les da dolor de costado rrepentino, de que mueren luego sin conocerles el mal…"Paso y Troncoso del, *Papeles De Nueva España: Relaciones Geográficas De Mexico*, 161.

[61] "[D]icen que en tiempo antiguo bibian mucho mas y mas sanos que no agora, y que a lo que entienden es por que la xente es agora mas holgazana y no se da al trabajo como entonces, y las comydas de aquel tiempo no eran tan anpias (sic) como agora, porque los yndios comunes no podian comer carne ni gallina ny beber byno, lo qual agora acen en gran demasia, y esto dixeron y entiendian de todo." Ibid., 111.

[62] "[V]ivian antiguamente mucho tiempo y esto muy sanos, porque comyan poco y trabaxavan mucho, y no conocian muger asta ser de treinta años, y no andauan tan olgaçones como agora: tenyan por fiesta emborracharse, y esto lo abian de açer los prençipales, quien el señor abia señalado, y ningún yndio comun podia beber bino so pena de muerte y castiguavanlo con rigor." Ibid., 91.

[63] "[V]ivan malsonas y entiendese por muy cierto que las enfermedades proceden de las enbriaguezes y poco ejercicio que hazen, y vivir con tan grande ociosidad." Ibid., 21.

[64] "[E]s gente de poca onrra y verdad y verguenca, y ansi por estas ocasiones cualquiera cosa que se les mande la hazen de temor, y si los vuiesen de llevar por bien no harian cosa; es gente para poco, floxos, en tanta manera que si fuese pusible sin trabajar, estando acostados, tener que comer, no haria diligencia para ello, aunque estuvieron desnudos toda la vida, y ansi algunos se estan debajo de los magueyes y se sustentan del vino que dellos se haze a su modo, y yerbas y tunas que en los mas pueblos tienen de cantidad; anse de llevar por mal para que hagan lo que les mandan, y esto es general en toda la *Nueva España."* Ibid., 17.

These observations fit in with a Spanish perception that social control in Indian pueblos had evaporated with the conquest, and that this new freedom was harmful for the *naturales.* As we saw in the last chapter Sahagún believed that strict control over the Indians was necessary to subdue their naturally intemperate ways. According to the Franciscan, the social control among the Indians had been dismantled along with the destruction of their religion. Sahagún lamented the present situation, in which loose control created "a vice ridden people, of very bad inclinations, and bad works, which makes them hateful to God and to men, and even causes [among] them great sickness and short life."[65] Here Sahagún implied that the mortality might be some sort of divine punishment, but he also thought that it was caused by intemperate living. According to the friar Spanish attempts to control Indian drinking, such as selling them into slavery, threatening them with hell, and whippings, were unable to stop them. These *borracheras* (drunken parties), he opined, were prejudicial to "the republic, and the health and salvation of those that participate." According to the Franciscan these *borracheras* caused "many deaths, because they kill one another when drunk and they mistreat works and words, causing great dissensions in the republic."[66]

Indian drinking must have been a popular trope because the *oidor* Doctor Alonso de Zorita noted that many Spaniards attributed the diminution of the Indians to drunken homicides. This, he assured the king, was absurd, because in many places in Europe people also drank too much and fought, but it had never caused such a decline in population. He agreed that Indian drinking was a grave problem, which caused all sorts of excesses and sins, and he hoped that a remedy might be found, but he also wanted the king to understand that this was not the cause of depopulation.[67] Gibson argues that it was not Indian drinking per se that concerned the Spanish; it was the manner in which they

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[65] "Pero viendo ahora que esta manera de policía cría gente muy viciosa, de muy malas inclinaciones y muy malas obras, las cuales los hace a ellos odiosos a dios y a los hombres , y aun los causen grandes enfermedades y breve vida…" Sahagún, *Historia General De Las Cosas De La Nueva España* Vol. 2, Book 10, p. 628.

[66] Ibid. Vol. 2, Book 10, p. 628.

[67] "Otros quieren decir que las borracheras son causa de la falta que hay, porque mueren muchos de ello, y se matan unos á otros en estando borrachos, y también en esto se engañan, pues en otras partes hay lo mesmo y no los acaban; aunque sería y es muy necesario procurar de quitarlas, porque son causa de gravísimos pecados y delitos y de grandes excesos que cometen en estando borrachos; y lo que se ha dicho no es para excusarlos, sino para que se entienda que no les viene de aquí el acabarse."p.158

did it. He notes that native practice involved drinking to saturation, vomiting and then resuming once more. This had been limited in pre-conquest times to religious ceremonies and special occasions, but Gibson argues that dislocation, fear and freedom (of both consumption and production) increased this practice.[68]

This discourse eventually made its way into Crown policy and the sale of wine was frequently prohibited.[69] In 1594 the King wrote to Luis de Valasco concerning the pueblo of Xochimilco, saying that the people of that pueblo had made relation that the sale of wine caused great damage. The relation said that that the sale of wine was, "so bad *that it causes pestilence and other contagious diseases* and because of this the Indians [we]re diminishing." Therefore he prohibited the sale of wine to the Indians under the gravest penalties.[70] But the sale of wine was difficult to control. In 1597, the Conde de Monterey informed the king that he had tried to ban taverns in Indian towns but that this was difficult because of the number of them. In Cholula, for example, he noted that of the fifty five Spanish residents, forty two were tavern owners. For this reason, he lamented, it was impossible to stop the sale of alcohol altogether.[71] This example speaks more to an increase in production and availability than to a loosening of social control among the Indians.

While Doctor Escobar blamed the mortality of the Spanish pestilence of 1590 to the overconsumption of cheap wine, poverty and a lack of bastimientos, accompanying a bad

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[68] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 150.

[69] William Taylor notes that in the *Relaciones Geográficas* there were also many references to the relationship between drinking and depopulation. He argues that mass ceremonial drunkenness was abhorrent to the Spanish who misconstrued it for societal breakdown. But that drinking did not, by an large, lead to the breakdown of social conventions or violence, except in Mexico City where the local norms and societal control were weaker. William B Taylor, *Drinking, Homicide and Rebellion in Colonial Mexican Villages* (Stanford: Stanford University Press, 1979).

[70] Emphasis mine. "[M]e a hecho relación que de venderse en el dicho lugar vino a indios resulta grandísimo daño y mayor de que en los que ay muchas tabernas que se den sienta que sea tan malo que el causa de pestilencia y otros malos contagiosos y de que por este venga en disminución los dichos indios que se remedia con mandar que en ningún manera se le vende vino de ningún genero bajo graves penas." AGN, *Indios, Vol. 6, Exp. 911, F. 245* (1594).

[71] "[Y]o hice prohibir las tabernas en pueblos de Indios tome experiencia de que la orden se tenia estos años después de quitando e uso de los estancos era en cada pueblo de Indios cuantas tabernas pudieren poner los españoles que en ellas viven que iban muchas por el intento que llevaban de Venderlo a los naturales y llego este exceso a tanto que en la Ciudad de Cholula que es pueblo de Indios donde debe de haber 55 españoles pocos mas o menos eran los 42 de ellos taberneros de que resultaba manifiesta imposibilidad de poderse prevenir el no vender lo a Indios." AGI, *Mexico 23, N. 86-1, 1597 Cartas Del Virrey Conde De Monterrey (1595-1603)* (1597).

year, Spaniards saw Indian mortality as a symptom of their inability to manage their own lives. According to Escobar Spaniards had good habits, they managed their lives like Epicurians. According to many corregidors, Indians had bad habits that increased their mortality, such as drinking, bathing, and living generally disorganized lives.

III. Consuming the Indians

However, while many blamed the Indians for their own mortality, others saw Spanish excess as the culprit. Many Spanish clerics and officials saw the mortality of the Indians as a failure of the civilizing mission, which "consumed" rather than protected the Indians, attributing the decline in the post-conquest period to poor government. As one anonymous writer pointed out, the process of transition between governments was not smooth. According to this author this transition, which was flawed for being implemented too rapidly, had created a situation where the *naturales* had left behind the best of their "crop" while assuming only worst part of Spanish government. He noted that though Moctazuma was "barbarous and irrational" he was able to preserve his kingdom in peace and justice with "great abundance." This author believed that the key to this abundance lay in technology now lost, in the form of granaries, which had been destroyed in the conquest.[72] As we saw in chapter two, this author argued that New Spain suffered from a balance of production. He argued that the Spaniards and their animals "consumed" the efforts of the Indians, whose numbers were dwindling. "So that if twenty or thirty years ago, there was great abundance and low prices, it was because there were many more laborers than consumers, but today it is the reverse."[73]

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[72] "Sobre los indígenas decía, "..entre yndios ni con ellos no combernia usarse las leyes de España sino gobernalos por las que ellos tienen entre si y por sus costumbres las que no eran notoriamente ynjustas porque es cierto que no se aplican a las nuestras y a sido gran confusion quitarles su manera de Gobierno y quererles en pocos días darles el nuestro porque ban dejando lo bueno que tenían de su cosecha y de la nuestra no taman sino lo peor. Si Moteçuma con ser barvaro y hombre más ynrracional que de rraçon conservo tanta multitud de gentes en paz y justicia y se dio buena maña a ser amado y obedecido y avia en su tiempo grandisima abundancia de mantenimientos por que la mayor vigilancia que tenía era en hazerles cultivar la tierra, y hazer grandes sementeras y tenía en las tierras frias graneros donde hazía guardar de un año para otro muy gran cantidad de maiz, lo que en este tiempo no se puede hazer porque estos graneros se perdieron…"As cited in: "El Príncipe Filipe y la Nueva Sociedad Novohispana (1548-1558)" by Maria Justina Sarabia Viejo, Pérez Zarandieta, ed, *Filipe Ii Y El Oficio De Rey: La Fragua De Un Imperio* , 367.

[73] "[C]reo que ay en esta gobernación más de cincuenta mill hombres entre españoles, mestizos y negros y no siembran ni cojen y más de cien mil cavallos y mulas acémilas de silla y carga y los indios con sus coas no pueden mantener a si y a toda esta multitud y si aurá diez i viente y treinta años havía

Much of the discourse on consumption was generated by the *visitadores* assigned to evaluate the tribute situation throughout New Spain. Until the 1550s *encomenderos* and *corregidores* were given wide latitude in the collection of tribute, but as the number of Indians began to dwindle the crown began to set quotas on the collection of tribute and punish errant officials. [74] Some *visitadores*, like Pedro Moya de Contreras or Diego de Landeras y Velasco were appointed by the Council of the Indies in an attempt to curb corruption in the colonies.[75] These officials were given broad powers and access to all levels of the colonial machinery. But Viceroys also named *visitadores* on the local level.

Diego Ramirez is a good example of the *visitador*, and how political factions played into this discourse. Luis de Velasco (the elder) named Ramirez *visitador* after receiving a report written by Ramirez in 1551 from New Galicia complaining of abuses by miners, *corregidores*, *Audiencia* members and other Spanish officials in that area. Ramirez warned that the few Indians left in the region would either be "consumed" or join those already in open rebellion. According to Ramirez the rebellious Indians were given ample cause by the great cruelties heaped on them, such as intolerable tributes, aggravations and little help from the *Audiencia*, on account of the great discord between its members.[76] As an example of the sorts of abuses the Indians there received he related the story of an Indian named Ana, who was carried off kicking and screaming at the behest of several *Audiencia* members to raise the child of the Secretary.[77] Finally he reported that the

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abundancia de mantenimientos y en bajos precios hera porque havía muchos labradores y pocos comedores y ahora es al rrevés." "El Príncipe Filipe y la Nueva Sociedad Novohispana (1548-1558)" by Maria Justina Sarabia Viejo, Ibid., 367.

[74] Until this time *encomenderos* had previously enjoyed wide latitude in setting their demands. Now the rates were set by royal officials, and *encomenderos* lost their ability to control the labor of the Indians under their jurisdiction. Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 62.

[75] Stafford Poole has compared the *visitas* to an alchemical purge, where the government "was tried like gold in the fire and the impurities removed." Poole, *Pedro Moya De Contreras: Catholic Reform and Royal Power in New Spain, 1571-1591*, 88.

[76] "[L]os pocos de los naturales que han quedado, en breve se consumirán y aun podría ser que los que quedaren se pasen con los questán rebelados del servicio de vuestra majestad, a la cual rebelión sé cierto se les dio muy gran ocasión con grandes crueldades que les fueron hechas y no menos se las da menor el día de hoy a los questán de paz allí cerca según los intolerables tributos que les llevan y agravios que padecen y el poco remedio quel Audiencia ha puesto en hacerles justicia ni menos son parte para hacerla por la gran discordia y desorden que hay entre ellos siguiendo cada uno su propio interese y pasión no guardando la autoridad que se requiere…"Paso y Troncoso, *Epistolario De Nueva España 1505-1818*. Tomo VI, 37.

[77] "[E]n un pueblo que se llama Jalisco ví un mandamiento dado por el Audiencia y firmado de los tres oidores y de Pedro Ruiz Defaro, secretario, en que por él mandaron a un Sebasitián Cerrato, corregidor

previous *visitador*, *licenciado* la Marcha, had done nothing to satisfy the complaints of Indians; instead he had ordered them to serve their masters.[78]

Ramirez's report echoes common tropes concerning depopulation, while showing his political alignment with the order of St. Francis. Praising the work of the Franciscans, Ramirez claimed that in areas where they had ministry the Indians were well conserved and where they were absent the pueblos "are desolate and without doctrine, not knowing liberty or justice."[79] Ramirez concluded that he feared the end of the kingdom due to depopulation noting that "many of the Indians say they don't want to raise their own children into a life of servitude."[80]

Velasco assigned Ramirez to visit the pueblos and cities between Mexico and Veracruz reporting on their condition, assessing appropriate tribute levels, and correcting abuses.[81] Accompanied by an interpreter Ramirez started his journey in Xilotepeque, where the Indians complained of the great harm caused to them by livestock. His next stop was Meztitlan, which he claimed was notoriously overtaxed. Reaffirming the belief that hot lands were less salubrious than colder climes, Ramirez reported that the Indians of that hot land were required to pay the same as those of Mexico, which was cold, causing Meztitlan to be very depopulated, "needy and thin." According to Ramirez, this region also had problems with leadership, and for the price of a bottle of wine one could do as they pleased, including get away with murder. [82]

When he reached Pánuco, Ramirez wrote to the king explaining that the hurricanes of the previous years had wiped out the fields of the Indians, worsening their situation. In

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de un pueblo que se llama Tepique que luego buscases una india chichigua que se llama Ana para que criase un hijo del secretario que he dicho, la cual enviase sin embargo de cualquier cabsa ni razón que diese: yo la vi llevar forciblemente llorando y haciendo grandes exclamaciones y no sé si mató en el camino al propio hijo por ir a criar el estraño: sé quel dicho corregidor echó preso a un indio alcalde porque no quería entender en hacer ir la dicha Ana por fuerza." Ibid., 38.

[78] "[E]s notorio que a los opresos indios que se le iban a pedir les amenazaba con palabras rigurosas mandándoles que sirviesen a sus amos." Ibid., 39.

[79] "[D]onde los tales religiosos habitan, los naturales están conservados y en toda policía y xriptianidad, y digo que donde no residen los pueblos están desolados y sin tener dotrina, ni saben que es libertad ni justicia." Ibid., 39.

[80] "[A]sí creo que todas estas provincias en breve se han de acabar y esto no porque sea pronóstico sino por las grandes injusticias y violencias que padecen y en tal manera que muchos de los naturales les dicen que ya no quieren criar sus propios hijos por no dejarlos en perpetua servidumbre y semejantes opresiones." Ibid., 40.

[81] Paso y Troncoso, *Epistolario De Nueva España 1505-1818*. Tomo VI, 50-60.

[82] Ibid. Tomo VI, 125-128.

combination with high tributes, the damage had left the Indians of area without corn, and they were forced to eat roots.[83] Remarking on the desolation of the area, Ramirez wrote that he visited one head town in the area which only had twenty or thirty people left. He also complained that the local *encomenderos* treated their Indians *like slaves*, and he argued that the switch to *corregidores* had not improved the situation, as many of the same *encomenderos* who had already "depopulated" their own towns were frequently appointed as *corregidores*, so that they might "finish desolating" the area.[84] After investigating claims that local *encomenderos* had raised the tribute levels, he found that 18 years earlier when the *tasa*, or quota, had been set the *mantas* made by the Indians were much smaller than those they required at present. So that "one *manta*, that they give now, is worth three that they gave then, *when they had a greater number of people* and possibility, and in this way and with these excesses, the tribute of the *encomenderos* has gone up, and the *naturales* have been running out."[85]

Frequently it is not clear whether depopulation of an area occurred from deaths (or low birth rates) or because the Indians simply left. For example, in the testimony of Andrés de Valladolid concerning the depopulation of Topla it seems that depopulation resulted more from flight than death. Valladolid claimed that Christobal de Ortega had been the *encomendero* when the *tasa* or tax was set on Indian tribute there, but that upon his death his wife remarried Diego Torres, who demanded much finer mantas, locking the Indians up to get them to comply and causing the depopulation of various estancias.[86] Similarly the same witness claimed that Rodrigo Becos whipped several of the leaders of Tenauxco causing depopulation there as well. In both of these cases it appears that the Indians had been quite literally "running out" of an unhappy situation.

However, for the most part, depopulation referred to mortality, and there was a general sense that tributes needed to be modified due to the decimation of the epidemics.

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[83] Ibid. Tomo VII, 9.

[84] "[Y] lo peor es que estos corregimientos se han dada y danles ahora corregimientos para que acaban de desolar los que estan en cabeza de su majestad" Ibid. Tomo VII, 10.

[85] Emphasis mine. "[V]ale agora más una manta de las que dan los indios en tributo que tres de las que daban en aquel tiempo cuando ellos tenían más número de gente y posibilidad, y desta manera, y con otros excesos que ha habido, han subido los tributos de los encomenderos y los naturales se han ido acabando…" Ibid. Tomo VII, 59.

[86] Ibid. Tomo VII, 21.

Fray Domingo de la Anuncación, writing in 1554, summed up the situation and the remedy noting that "the tribute which should have been paid by the dead is now put upon those who remain."[87] He explained that often a pueblo might have paid five hundred or six hundred *fanegas* of corn or five hundred pesos, but then the pestilence came and the Indians began to die, "first two today, then three more tomorrow, and in a few years half the population of the pueblo was gone." Those that remained were stuck with the whole tribute. Gonzalo Díaz de Vargas, who was sent to visit Chiautla, Teutlalco, Papalutla and Olinalá in 1556 by Velasco Sr, agreed with this assessment and moderated the tribute of these towns. He reported that the areas of Cuyxco, Tlapa and the pueblos of the south coast and Guamuchtitlan needed to be visited because they were very burdened with tribute due to depopulation and because it was a "hot and infirm land" with little gain for the *naturales*. He warned that if their tribute was not moderated they must "run out or at the least come to great decline."[88]

Others claimed that it was not Spanish excesses which harmed the Indians, but "vagabonds" or other wayward folk, who caused the Indians distress. In 1564 a group of "original settlers and *encomenderos*" of New Spain wrote to the king asking that he make the *repartimiento* of the land perpetual. They said that this would be for the good of the Indian towns, which receive a great deal of harm from vagabonds who take advantage of the Indians, robbing and abusing them, and setting a bad example for the Indians, by living in the mountains, "not like Christians." They claimed that this would be remedied by the perpetual *repartimiento* of the land, because the lords would take care to clean their lands of such people, securing service to God and notable good for the Indians. Finally they concluded that the perpetuity of the *encomiendas* would increase the production and exchange of agricultural goods, and with each Indian "fit" into a *repartimiento*, they would all be rich, and the roads would be safer.[89]

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[87] "[Y] que se tenga especial cuidado de los que mueren para que el tributo que habían de pagar los muertos no cargue sobre los que quedan." Ibid. Tomo VII, 264

[88] "[P]orque demás que están despoblados, de lo que antes solían ser, están muy cargados en los tributos que hoy dan, y porque los dan en muchas cosas de menudencias y son tierras cálidas enfermas y de pocos provechos para los naturales; y si con brevedad no se descargan y moderan está claro se han de acabar o a lo menos venir en gran diminución." Ibid. Tomo VIII, Item 444, 121.

[89] Ibid. Tomo VIII, Item 537

Still others believed that native lords were the problem. Hernando Herrera, the reporter of the *Audiencia* of Mexico, complained specifically about Ramirez's efforts, saying that they were in vain because the Indian leaders, the governors and Caciques would still overcharge their people. Herrera claimed that if a pueblo was taxed a thousand pesos, the leaders would charge the *macehuales* ten thousand, paying one thousand to the *encomendero* (the Crown) and drinking and eating the other nine.[90]

In a relation, entitled *Breve y Sumaria Relación,* sent to the Crown in the 1560s Alonso de Zorita an oidor on the Audiencia of Mexico City blamed royal officials, such as alcaldes, regidores, alguaciles and fiscals. He argued that the offices of *alcalde* and *alguacil* should be disbanded entirely, "because they don't serve any purpose other than to rob and disturb the public (común)."[91] He contended that when the local leaders had governed their own people there had been peace and order, but that the Spaniards, mestizos and mulattos had interfered, causing disturbances and lawsuits between the *macehuales* (commoners) and the *señores* (nobles). He accused these people of "sucking the blood" of commoners for their own gain. Zorita believed that "the common people [were] like children" who need to be directed and he lamented that these people, having lost respect for their leaders, and the leaders having become dispirited, had gone astray.[92] Referring to the idea of "natural" lords, Zorita argued that the new leaders, elevated by the Spanish to do their bidding, did not love or want to protect their people the way that the "natural leaders" had.[93]

Zorita argued that the "consumption" of the Indians took many forms. Excess tribute caused them to sell their lands and children and go hungry, the mines took their lives, the *obrajes* (textile workshops) pressed them to work against their will and for little pay, livestock ate their fields, but for Zorita it was the distance traveled by the Indians in the service of Spanish labor requirements that really took a toll. His relation depicted

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[90] "[P]orque sabrá vuestra alteza que el cacique y gobernador y principales de los pueblos roban los maceguales desta manera: que el pueblo está tasado que de a vuestra majestad o al encomendero que lo tiene valor de mil pesos, y para cobrar o pagar estos mil pesos cobran de los maceguales diez mil pesos y pagan al encomendero o a vuestra majestad los mil en que está tasado, y ellos se comen y beben los nueve mil…." Ibid. Tomo VII, Item 415, 286.

[91] "Breve y sumaria relación" de Doctor Alonso de Zorita García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 93.

[92] Ibid., Ibid. 94, 95.

[93] Ibid., Ibid., 98.

highways full of Indians with their women and small children, hungry and tired, dying by the side of the road. Once they reached their destination, it was no better. Describing the rebuilding of the *calzada* which connected the island city to the mainland, he noted that more than two million people worked in the water and in the cold, without cover both day and night. Zorita argued that this work and the journey to and from had caused "infinite" deaths.[94]

Referencing the debates taking place between the religious and Spanish officials over Indian labor, Zorita sided with the religious. He noted that many Spanish officials contended that the Indians had done more work in the time of their infidelity, and "that this [was] not the reason they [were] running out." Instead, they argued that it was the service that they gave to the Church or their local leaders, and not the public or private works of the Spanish that caused them harm.[95] Zorita disagreed, saying that unlike the work required by the Spanish, the work done in the construction of monasteries and chapels and the houses of their leaders was done close to home, where the Indians were able to see their families, stay warm and return to their houses or fields whenever necessary. Zorita declared that, "what has consumed them, and still consumes them in these times are the massive and heavy buildings that they have and still build in the Spanish towns."[96]

According to Zorita this work made Indian bodies susceptible to disease in two ways. First, by taking them out of their normal habits and exposing them to the elements, the work weakened their bodies so that they came down with pestilence and diarrhea. According to the *oidor*, this work caused the Indians to leave their "natural environment," forcing them to go from cold to hot, and hot to cold, twenty, thirty and forty leagues or

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[94] Ibid., Ibid., 162, 164.

[95] "[Y] porque todos los españoles y entre ellos algunos Oidores, tienen por muy averiguado que eran más los trabajos que tenían en tiempo de su infidelidad, que no ahora, y no los acababan y que así es de creer que los trabajos de ahora no es la causa de se ir acabando, y que si algún trabajo tienen excesivo, que es en labrar los monasterios y templos, y en las sementeras de sus caciques y comunidad, y en sus obras públicas, porné lo que trabajaban en su tiempo y el modo que en ellos tenían, y lo que trabajaban y trabajan después de dada lo obediencia a V.M. para que se entienda en que está su destrucción y falta tan grande como ha habido é hay cada día de gente, que lo que trabajaban en sus repúblicas, para creer que por se les haber quitado aquel trabajo están más relevados, porque demás que nadie será parte para se lo quitar, por se antiquísimo uso y costumbre entre ellos, se hacía y hace muy de otra manera que cuando sirven en las obras publicas y particulares de los españoles.."p. 156

[96] Ibid., García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 164.

more. This took them "out of their usual stride in everything," interrupting their methods of eating, sleeping and working. What is more, being far from home, which served as their only shelter (*abrigo*), they were left without refuge from the elements and were forced to work from sun up to sun down.[97] As they had no "cure or any refuge," he explained, "on the fourth or fifth day they die." Death, he declared, was their only refuge from work, "because while they live they never lack it."[98] Second, he argued that the work impeded the sowing of fields, which further weakened the Indians. Finally, Zorita lamented that the diminution itself and the growth of the Spanish population caused the work required of the Indians to increase, as the work of many fell on the shoulders of those who were left.[99]

According to the *oidor*, Spanish livestock and the appropriation of land also weakened the Indians. Noting that Spaniards were in the custom of claiming "unused" lands from the *calpulli*, he informed the king that most often these lands were not vacant. This practice, he declared, had become so prevalent that many *calpulli* remained almost totally "consumed" by the Spaniards, whose lands left little for the Indians, and whose livestock constantly destroyed the fields of the Indians. He noted that in order to protect their fields the Indians would have to be out protecting them night and day, something they could not do, and as a result "there remains great need and hunger all year because they are not able to plant, or benefit from what little they were able to plant."[100]

The picture painted by Zorita was bleak, but not without hope. The mortality he described resulted from hunger, exposure and overwork, which could be remedied by wise government. Pleading with the king, he noted that something had to be done before

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[97] "Lo que los ha consumido é aun consume en estos tiempos es los grandes edificios de cal y canto que han edificado y edifican en los pueblos de los españoles, viniendo á ello fuera de su natural, de tierra fría a tierra caliente, y de tierra caliente á fría, veinte, treinta, cuarenta y más leguas, sacándoles de su paso en todo, así en el trabajo como en el tiempo y modo y comida y cama, muchos días y semanas sin ningún refrigerio, haciéndoles trabajar desde que amanece hasta después de anochecido.

[98] "Ansí que las cosas dichas han consumido y consumen la gente de aquella tierra, sacándolos de su modo, así en el trabajo como en la comida y abrigo, fuera de sus pueblos y de sus casas, mueres e hijos, y de su reposo y concierto: é de padecer estos trabajos, hambres, fríos, cansancios, calores, vientos, dormir en el suelo, en el campo, al frío, al sereno, se cree les vienen las pestilencias y enfermedades, porque con el gran quebrantamiento dales pestilencia ó cámaras: no tienen la muerte por remedio é alivio de sus trabajos, porque en tanto que viven no les faltan." García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 164.

[99] Ibid., 166.

[100] "Breve Relación de Alonso de Zorita" Ibid., 89.

New Spain resembled "the islands and the great province of Venezuela and the entire coast, and other great and sad lands that have run out and been depopulated in our times."[101]

Pedro Moya de Contreras, another visitador (1583) who went on to become the Archbishop (1573-1591) and interim viceroy (1584-1585) made a similar argument. Moya blamed the *repartimiento*. Comparing the Indians to sheep, he argued that it was as though the Indians had been partitioned among a "packs of wolves" who abused the Indians at every turn, treating them "as though they were their blacks." According the Moya the *repartimiento* was unnecessary and prejudicial. Noting the numbers of blacks, mulattos and mestizos roaming the countryside, he argued that these people ought to be included the labor draft. Moya contended that it was in the self interest of the Spaniards to limit the draft, because the Spanish population depended on the Indians, and if they were to run out, the Spaniards would be "lost without knowing what to do."[102] As evidence, he noted the times during the epidemics, when Spaniards had no labor to turn to.

Justice

Part of the problem, according to many, including Diego Ramirez, was that the Indians did not understand the Spanish system of justice. Ramirez argued that because Indians did not understand the Spanish "style" or how to use the justice system, they suffered unduly. Ramirez contended that many times the Indians were unable to pay the entirety of their tribute, "because the quota was excessive and for being fatigued by the dyings, famines, and bad treatment they have received," and then because they did not

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[101] "[C]omo todas las Islas y la gran provincial de Venezuela y toda la costa, y otras grandes y lastísimas tierras que se han acabado y despoblado en nuestros días." Ibid., 167.

[102] "[Y] es la causa, porque á la republica española en estas partes le es muy necesaria la conservación de los indios, con cuya comunicación se acomoda en todos sus tratos y menesteres, y si los indios se acabasen, podríamos decir que quedarían los españoles perdidos y no se sabían valer; y esto se colige muy bien de los tiempos en que ha habido pestilencias entre los indios, que andaban los españoles alcanzados en todo y aislados, no sabiendo que se hacer, por no haller indios para sus menesteres, porque todo lo hacen con ayuda y por man de los indios; y esta es verdad infalible, que el repartimiento de los indios en la forma que al presente se usa, como una lima sorda los va consumiendo, s no se remedia: luego bien se sigue que el tal repartimiento es perjudicial y dañosos á la mesma republica española." "Cerca del repartimiento que hace de los indios libres para servir forzosamente á los españoles." Mendieta, *Códice Mendieta: Documentos Franciscanos, Siglos Xvi Y Xvii*, LXII, 24.

complain, and because of their "great ignorance" they did not make note of what they did pay, so that when the *encomenderos* come back they overcharged them, all because they did not know how to ask for justice.[103] For this very reason, Ramirez saw his job as crucial, for even though the Indians had the right to recourse in the court of the Audiencia, the distance and their ignorance kept them from being able to take advantage of it.[104]

Likewise Zorita argued the Spanish system was not fair, impartial, or strict enough. He noted that according to many friars, the Indians had lived in order and *policía* when the Spanish first arrived and that this remained even after the conquest, but that soon thereafter they lost their *policía* and justice and "everything was confused."[105] Citing the authority of Indians with whom he had spoken, Zorita argued that this disorder was caused by the confusion of the Spanish system, which was not strict, in terms of punishing crimes like drinking or adultery, or as fair and impartial, especially when a Spaniard was involved in the suit.[106]

Despite this injustice Indian communities began making the trek into Mexico City in increasing numbers. Eventually, the traffic was such that Luis de Velasco II would create a separate court, *Indios*, devoted solely to Indian complaints, but even by the 1570s, we see numerous petitions by native communities. In these cases we see the daily struggle of Indian communities against livestock, corrupt officials and the "vexations" of neighbors, giving us a glimpse into the encroachment of the Spanish world into native life. For although efforts were made to segregate the two republics, Spanish and Indian, reality was often quite different and there was a great deal of contact between the two groups.

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[103] "Otrosí sepa vuestra alteza que muchos o los más de los encomenderos, como no han podido sacar de los indios todo el tributo en que estaban tasados por ser ecesiva la tasación y estar fatigados de las mortandades, hambres y malos tratamientos que han recibido y no tener posibilidad para pagarselo, y habiendoles dado a entender los encomenderos que les soltaban lo pasado y esto porque no se quejasen, y como los indios por su grande inoracia no han tomado recaudos de la suelta que les han hecho, agora al tiempo que se vistan los pueblos por los molestar y fatigar los encomenderos pídenles los tributos recargados, y esto porque los indios no osen pedir los malos tratamientos que les han hecho, y ansí los encomenderos procuran y ganan provisiones de la Real Audiencia para que les paguen todo lo recargado y como los indios no tienen aun para poder pagar lo de presente y sobre ello les echan presos y no saben suplicar de las provisiones, perece su justicia, y no osan pedirla." Paso y Troncoso, *Epistolario De Nueva España 1505-1818*. Tomo VII, 107.

[104] Ibid., 188.

[105] García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, 101.

[106] Ibid., 104.

From the beginning of the colonial process an attempt was made to segregate the Indian communities from the corrupting influences of outsiders. Courts often enforced the exile of unsavory characters based on the *cédula* of 1578, which barred mestizos, mulattoes and blacks from living in Indian pueblos.[107] But this was unrealistic and difficult to enforce. The only way to enforce the *cédulas* was through litigation, and this was generally done on a case by case basis, so that we see segregation enforced in a piecemeal fashion and only in cases when pueblos had the resources or will to take the issue to court. In 1579 in Zacatula the *alcalde* mayor was ordered to bar residence to people residing in Tecpa who "aggravate the Indians," namely Spaniards, mestizos and mulattoes.[108] In a case the following year, "some mestizos" and a Greek were ordered to leave Quechula.[109] Frequently these foreigners were implicated in attempts by Indian pueblos to limit the sale of wine or *pulque*, a fermented beverage made from the pulp of the maguey.[110] For example, in1590 the towns of Jalapa and Catlán petitioned the court of the *Indios* to punish and exile Juan Niso, Juan Picano, and Juan Andrea, three *solteros extranjeros* (foreign bachelors) for selling wine, inciting *borracheras* (drunken parties) and committing other crimes against God.[111]

More frequently pesky officials and outsiders were merely ordered to make restitutions or simply cease their "vexations." Frequently cases involved the theft of foodstuffs, and *alcaldes* were asked, as in this case from Zumpango, "not to let any Spaniard, mestizo, or mulatto from entering into the houses of the *naturales* to take hens, food, or other things."[112] *Tenientes*, or lieutenants, were the officials most often accused of foul play, as in a case in Tulancingo, where the *alcalde* of Tulancingo was ordered not to let the *teniente* of Malinalco to order the Indians to build houses or cut wood.[113] Though personal service had been outlawed in the New Laws of 1542 many Spanish officials and native leaders still attempted to demand it. For instance in Santiago

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[107] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 147.

[108] AGN, *General De Parte, Vol. 2, Exp. 324, F. 68v* (1579).

[109] AGN, *General De Parte, Vol. 2, Exp. 471, F. 94* (1580).

[110] AGN, *General De Parte, Vol. 2, Exp. 573, F. 115v* (1580).

[111] AGN, *Indios, Vol. 5, Exp. 101, F. 27v* (1590). Also see: AGN, *General De Parte, Vol. 2, Exp. 32, F. 7v* (1579). & AGN, *Indios, Vol. 6, Exp. 702, F.188* (1594).

[112] AGN, *General De Parte, Vol. 2, Exp. 235, F. 48* (1579).

[113] AGN, *General De Parte, Vol. 2, Exp. 665, F. 135* (1580).

Tlatetalco the *naturales* asked that both Spaniards and their leaders stop forcing them to serve as messengers.[114] Likewise, the officials in Tlahuelilpan were ordered not to let Spaniards or passengers to force the Indians to serve as *tamemes*, or carrier on the mule trains.[115]

Indian communities also frequently complained about the invasion of Spanish livestock. For example, in 1579, the *naturales* of Tlacintla went before the court to bar Spaniards and their pastors from causing damage to the fields of the Indians by allowing their livestock to pasture untended.[116] The next year the *corte general de parte* asked the *corregidor* of Tlatlauquitepec to compel Anton Gomez to take his livestock out the pueblo and return it to his ranch. He was ordered to make reparations for any damage his livestock had done to the fields of the *naturales* of Ixtacamastitlan.[117] Some of these complaints give us a glimpse into the amount of damage done by livestock. For example, the same year, the Indians of Ocolotepec, Mimiapa, Xilotzingo, Tlalaxco y Chiconautla were ordered to help those of Huitzitilpan in the repair and "garnishing" of the sierra destroyed by livestock.[118]

Many of the cases directly related to mortality dealt with Spanish land appropriation, or tribute. In 1579, for instance, the *naturales* of Tulancingo complained that because of the recent pestilence many lands remained untenured, and some resident Spaniards, taking advantage of this, had taken over the land and were now cultivating "as their own."[119] The same year, the *alcalde mayor* of Jilotepec was asked to find out whether the land of Juan de Marquina had belonged the *naturales* of Gueychiapa, who had died in the pestilence.[120]

These cases allow Indian voices to be heard, even if they are muted behind the formality of the court proceedings. We see communities struggling against encroachment and a million "vexations." Their lands, invaded by man and animal alike were in need of

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[114] AGN, *General De Parte, Vol. 2, Exp. 475, F. 95* (1580).
[115] This practice was specifically outlawed in the New Laws. AGN, *General De Parte, Vol. 2, Exp. 572, F. 115* (1580).
[116] AGN, *General De Parte, Vol. 2, Exp. 284, F. 60v* (1579).
[117] AGN, *General De Parte, Vol. 2, Exp. 461, F. 92v* (1580).
[118] AGN, *General De Parte, Vol. 2, Exp. 499, F. 98v* (1580).
[119] AGN, *General De Parte, Vol. 2, Exp. 258, F. 52v* (1579).
[120] AGN, *General De Parte, Vol. 2, Exp. 88, F. 20* (1579).

repair, and left empty by depopulation. These cases give testimony to the claims of critics, such as Alonso de Zorita, who argued that Spaniards, mestizos, black, mulattos, and their livestock "consumed" and "sucked the blood" of the Indians.

Conclusion

By the turn of the seventeenth century, the once "numberless" population had declined as much as 86% and the land took on a new aspect. Depopulation left land untenured, and the expansion of Spanish livestock remade the environment.[121] Some areas were undoubtedly affected more than others. As Elinor Melville has shown, the Valley of Mezquital, which had once been grown cotton, chiles, maize, squash, tomatoes, and beans, was now only good for grazing sheep. Demonstrating how gully erosion, deforestation and the introduction of new desert fauna totally remade the valley and its original inhabitants, she argues that "by the end of the century the Indian population was an impoverished peasantry in a new political economy."[122]

Spaniards had slowly been appropriating land and by the end of the century they controlled as much as half of the arable land in the Valley of Mexico.[123] Parish churches occupied central positions in most Indian communities, becoming new iconic markers of space and local.[124] While Indian producers remained important to the colony, over half the corn and wheat consumed in Mexico City was grown on Spanish haciendas. Livestock, wheat, grapes and other Spanish staples replaced much of the local produce grown in New Spain, especially in the Valley of Mexico. New Spain had become decidedly Spanish and many Spanish residents began to re-imagine the land and their relationship.

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[121] For example the area around Tula had 0.6% of its total land devoted to pastoralism in 1539, 45.9% by 1569 and fully 93.6% by 1599. See Table 4.1 Elinor G.K. Melville, *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (1997).

[122] Ibid., 44.

[123] Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 277.

[124] In many of the maps drawn by native artists for the *Relaciones Geográficas*, churches became the primary indication for locals and communities.

Chapter 5. Inconvenient Indians: the Desagüe and Civil Congregations at the turn of the Seventeenth Century

Writing to his successor the Conde de Monterrey in 1596, Luis de Velasco, the Marqués de Salinas (Viceroy 1590-1595) lamented that the two republics, of Indians and Spaniards, lived at odds with each other. This discord, he declared, followed from the fact that the conservation of one always seemed to mean the destruction of the other. Velasco said that he did not know if it was possible for "[the] wealth of the Spanish, [their] houses, farmland, mines, livestock, monasteries and religions" to be maintained without the "service and help of the Indians, "whose nature and small inclination to occupy themselves and work and make money is so *inconvenient* that it has always been necessary to compel them to work and to do that which they should if they had the capacity and *policia*, that is conducive to serve." Velasco recounted the fact that many clerics had lawsuits trying to stop the *repartimiento* and he spoke of the difficulties he had in trying to provide labor for the Spaniards while "favoring" the *naturales*. Seeing the need for labor, he indicated that he had been obligated "as other viceroys have done" to grant repartimientos to many Spaniards, but maintained that he always made sure that these grants were temporary and did what he could to limit the service of the Indians. [1]

As we saw in the previous chapter, discourse on the "consumption of the Indians" generally focused around institutions such as the *encomienda* and the repartimiento. These critiques had effects. Over the course of the sixteenth century the Crown restricted the encomienda, limiting inheritance and replacing *encomenderos* with *corregidors*, state

[1] "Advertimientos que Luis de Velasco dejó al Conde de Monterrey 1596" Lewis Hanke and Celso Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria: México Ii* (Madrid: Atlas, 1977), 101.

officials who were granted these districts for a period of four to six years so that a powerful landed aristocracy could not challenge royal control. The crown also limited the forced labor of the Indians, outlawing Indian slavery and personal labor in 1542. In 1601 the Crown finally passed legislation limiting the repartimiento to public works projects. As José Sala Catalá has argued, this legislation made works such as the Desagüe possible by eliminating the competition over Indian labor. [2]

This chapter looks at the politics of New Spain at the turn of the seventeenth century, arguing that this period represented a moment when both royal and local prerogatives coincided. Focusing on the viceregal administrations of Luis de Velasco, the Marqués de Salinas (1590-1595, 1607-1511), Gaspar de Zúñiga y Acevedo, the Conde de Monterrey (1595-1603), Juan de Mendoza y Luna, the Conde de Montesclaros (1603-1607), and Diego Fernández de Córdoba, the Marqués de Guadalcázar (1612-1621) this chapter understands the "state" as an extension of personality.

As Alejandro Cañeque demonstrates, "personal ties and loyalties were what provided "substance" to the "form" of Spanish rule in the Americas, and viceregal power rested on the granting of privileges and positions."[3] The visitador Diego de Landeras y Velasco argued that this dispensary role created a superfluity of royal officials who "sucked the blood" of the Indians.[4] Yet, as Cañeque contends, these personal ties were the basis for Spanish rule, and viceroys such as Velasco felt they had to balance the interests of Spain and Spanish residents with the wellbeing of the Indians.

Examining the process behind these projects and the life and career of the two cosmographers in charge of them, this chapter contributes to our understanding of the culture of science in the colony. Both projects involved planning, mapping, and visual inspection, and the close participation of the viceroys in these undertakings demonstrate

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[2] In 1601 the Council of the Indies decided to make a ruling on the issue of Indian labor and the *Reales Cédulas* of the same year drastically limited the use of the *repartimiento* by private individuals, but permitted its use in works of public interest. This decision ended the public debates over the right to Indian labor and made works like the Desagüe possible. Sala Catalá argues that this decision was a cultural landmark which enabled the realization of the era's great public works projects, thus demanding and impelling scientific and technical innovation. Sala Catalá, *Ciencia Y Técnica En La Metropolización De América*, 61.

[3] Cañeque, *The King´S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*, 159.

[4] AGI, *Mexico, 92, 1543-1670, Cartas Y Expedientes De Visitadores Y Jueces De Comisión* (1543-1670).

the importance of these individuals to the completion of these endeavors. These viceroys hired specialists, compiled information, examined proposals, and funded these ventures. Each depended on cosmographers, Francisco Domínguez and Enrico Martínez, to organize and represent these tasks. This reflects the imperial emphasis that had been placed on this trade, and the growing need for specialized knowledge in New Spain.[5] The lives of these two men demonstrate both the mechanisms of patronage backing the production and representation of natural knowledge, and the fluidity of the culture of science in New Spain, where the knowledge of map making and mathematics also indicated the ability to engineer a massive drainage project.

This chapter complicates our understanding of this period, which has been seen by historians such as Woodrow Borah as a low point in the colonial era. Borah argues that the colonial economy plummeted into a depression in the 1570s as a result of depopulation, and that this depression lasted until the end of the seventeenth century when a laboring class of mestizos replaced forced Indian labor.[6] However, this period witnessed two of the largest state projects undertaken in the colonial period, the civil congregations and the *Desagüe de Huehuetoca* (drainage project). Both ventures represented the power of local administrations and the concurrence between local and royal concerns; the congregation fit in with creole aspirations for land, while the Desagüe attempted to save the city and creole investments. These projects remade the physical and human geography of New Spain. Touching the lives of hundreds of thousands of individuals who were forced to relocate or labor, they redefined the relationship between Indians and the state.

The Civil Congregations (1593-1607), a series of massive human engineering projects, changed the Mexican landscape by creating hundreds of new settlements.[7]

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[5] Maria Portuondo has demonstrated the way that the needs of a growing empire encouraged the specialization of cosmography in Spain.Portuondo, *Secret Science: Spanish Cosmography and the New World*, 56.

[6] Woodrow Wilson Borah, *New Spain's Century of Depression* (Berkeley: University of California Press, 1951).

[7] This number is a conservative estimate based on a compilation of numbers from Hilda J. Aguirre Beltran and Howard Cline. Aguirre claims that the first congregation efforts under Luis de Velasco I created 163 reduciones, while the civil program carried out under Velasco II, Monterrey and Montesclaros, created 187 new congregations. Aguirre Beltrán, *La Congregación Civil De Tlacotepec (1604-1606)*. pp.

These initiatives affected an estimated 225,000 Indians who were relocated into new pueblos in the course of a single year.[8] This process involved mapping, planning, and significant litigation. Between 1593 and 1603 teams were set up for each congregation involving a *juez de congregacion*, an interpreter, and a scribe. These teams prepared demographic and geographic reports with lists of tributes and ecological features.[9] In the second phase under the Conde de Monterrey, from 1603 to 1605, the actual "reductions" were carried out, many of which were contested. In the end, notable numbers of Indians were allowed to move back to their previous settlements. Nevertheless, numerous congregations remained redefining the geography and habitation of New Spain.[10]

The Desague of Huehuetoca, engineered by Enrico Martínez, was one of the most ambitious construction projects of this era. Starting at the northern part of Lake Zumpango, the work stretched 3.89 miles to the town of Huehuetoca. From Huehuetoca a tunnel was built that ran 3.84 miles to Boca de San Gregorio, where another canal brought the water to Nochistongo and then the river Tula, which emptied into the Gulf of Mexico.[11] This enormous task was completed in less than a year and relied on the labor of more than 60,000 Indians.[12] It cost around 300,000 pesos, or about 17% of the American silver received by the Crown per annum, and as such, it represented the largest "scientific" project undertaken in Mexico in the colonial era.[13]

These projects reflected the confidence of Spanish rule and the culmination of Spanish control over the land and the dwindling Indian populations of New Spain. Both endeavors addressed what Velasco termed as the "inconvenience" of the Indians, who lived in sparse settlements and had little need to participate in the Spanish economy. The congregation forced Indians into *policía* and congregations where they could be evangelized and accounted for, while the huge labor draft of the Desagüe forced Indians

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66 &74. While Cline finds the numbers to be much less clear, arguing that there were between 115 and 290 new settlements formed. Cline, "Civil Congregations of the Indians in New Spain, 1598-1606.", 363.

[8] Cline, "Civil Congregations of the Indians in New Spain, 1598-1606."

[9] Unfortunately these reports do not seem to have survived to the present.

[10] The culmination and dissolution of the civil congregation process has yet to be rigorously studied. Cline refers merely to a *cedula* published by Velasco II in 1607. Cline, "Civil Congregations of the Indians in New Spain, 1598-1606.", 357.

[11] Colin Chant, *Pre-Industrial Cities Reader* (London, New York: Routledge, 1999), 167.

[12] Mathes, "To Save a City: The Desague of Mexico-Huehuetoca, 1607.", 437.

[13] Louisa Schell Hoberman, "Bureaucracy and Disaster: Mexico City and the Flood of 1629," *Journal of Latin American Studies* 6 (1974), 212.

into the wage labor system. Both endeavors also represented the domination of Spanish technology and "order," which framed the natural and human landscape of New Spain.

I. Civil Congregations

By 1590, when Luis de Velasco started his first term, the kingdom had partially recovered from the devastating epidemics of 1576-83, but disease still picked at the land in such a way that it seemed habitual. That year Velasco wrote to the king that "the Indians remained sick in some pueblos and provinces." This illness, he contended, was so common that it "almost never lacked among them."[14] The following year he wrote that there was no "notable" epidemic, although rarely did the Indians lack some sort of sickness, which left them "running out" of *bastimientos*.[15] In 1596 the Conde de Monterrey reported a "universal" epidemic that seemed to hit colder places harder, but also noted that his own efforts to care for the Indians, such as excusing them from personal service, seemed to be having an effect, evidenced in lower mortality rates.[16]

At the end of his first term Velasco wrote to the Conde de Monterrey about the state of the kingdom. In his report he described "lazy Indians," an abundance of land, and a lack of *bastimientos.* He saw congregation as one of the best remedies for this situation and attempted two types of congregations during his first tenure. In the Northern provinces, near the "Indians of war," he took four hundred married Indians from Tlaxcala

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[14] "Los Indios han padecido en algunos pueblos y provincias en enfermidad, que casi jamas falta entre ellos, de que resulta haberse con todo de nuevo algunos pueblos, en cuyas cuentas siempre ay falta de gente, que no es lo que menos sentimento deve causar, yo procuro relevarlos en todas occasiones y trabajos y en esto pongo y pondre siempre mucho cuydado." AGI, *Mexico, 22, N.16, 1590, Cartas Del Virrey Luis De Velasco, Hijo (1590-1595)* (1590).

[15] AGI, *Mexico, 22, N.46, 1591, Cartas Del Virrey Luis De Velasco, Hijo (1590-1595)* (1591).

[16] En el segundo de aviso[…] de la enfermedad universal de los Indios y cuidad y remedios que se habían puesto en sacramentarlos y curarlos y andar de comer a los necesitados y el efecto que esto iba haciendo en la mejoría y dificultades que habían resultado por le Impedimento de aquella dolencia, en el servicias personal que los Indios hacen en esta nueva España, y ahora no tengo que añadir mas de que gracias a N.Ds. ay do declinado casi en todas partes el mal aunque en las tierras calientes no es agudo y de los Indios que han adolecido después de la prevención general que hice han muerto poco numero al respecto de los que antes iba sucediendo no ha podido apurarse el numero de los muertos por la lista que he pedido de los entierros a los ministros de doctrina por no haber aseado del Todo la enfermedad pero harase entiendo tiempo- re servicio personal se caído poco a poco y con suavidad reduciendo (con los Indios sanos) al estado que solía en cuanto a las minas y -de los trigos mientras duro y casi toda la gente de los repartimientos que ha sobrado cumplidos estos dos servicios he mandado dar descanse y reposa por algún tiempo, y ahora comienza a entablarse la continuación de los demás así de he difficios? como de estos géneros."AGI, *Mexico, 23, N.53, 1596, Cartas Del Virrey Conde De Monterrey (1595-1603)* (1596).

to serve as examples, and pacify the region.[17] He had also tried to take up where his father had left off, congregating the Indians in central Mexico, and urged Monterrey to continue this process. He wrote that he had had some success, but that these reductions were precarious because "the Indians go about very assaulted and with few roots to put down" so that they could live where they liked and find "land of good disposition." According to Velasco the Indians needed to be congregated but this was difficult because their "natural inclination" was "to live in hidden parts, inaccessible, and the most apart and alone as they can and for this reason they are spread out in many small towns and hamlets."[18] He also asserted that the greatest harm done to the kingdom was due to the negligence of Indians' planting, which was the ruin and destruction of the land. This lack of *bastimientos*, Velasco affirmed, was partly due to the "laziness of the Indians, who are not compelled by their necessity, because they have none, sustaining themselves on little," and partly because some private individuals paid them to not sow or cultivate in order to drive up prices. Compelling the Indians to sow and plant their "many and fertile" lands was, according to Velasco, one of the most important things in the kingdom that should be done with rigor and force, if necessary.[19] Velasco, who had grown up in New Spain during the reign of his father, noted that at one time chickens and meat had been so easy to come by in New Spain that being in the Indies was associated with "eating meat abundantly and at good price." However, he declared that he had seen "in this generation, such a diminution" in livestock that he had had to place heavy fines for killing female livestock. He lamented that he did not know of a way to remedy the situation or restore the "numbers that there used to be."[20] The land had changed according to Velasco; although land was still copious and the Indians had plenty to

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[17] Hanke and Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria: México Ii*, 99.

[18] "La inclinación de los indios es habitar en partes escondidas, inaccesibles y apartadas y lo mas a solas que pueden, y asñi estñan dilatados en muchos peublezuelos y caseríos." Ibid., 105.

[19] Ibid., 113.

[20] "[H]e visto que la tierra ha venido en este género a tanta disminución que lo que yo conocí en ella con que se pudiese llamar Indias era comer carne abundantemente y a moderado precio, y ya se ha acabado y no la hay, ni se alcanza lo necesario aunque se caro, como lo es. Y aunque he hecho para el remedio de esto grandes diligencias y nuevas ordenanzas en los herradores y puesto jueces y mandado con mayor rigor y penas graves que no consientan matar vacas ni los demás ganados hembras, no veo que haya podido restaurar el daño ni volver los ganados a la grosedad que antes tenían." Ibid., 112.

choose from and live off of, the kingdom was less abundant, and foodstuffs were becoming scarce and expensive.

The king urged the continuation of the congregations. Writing to Monterrey regarding his wishes, the king noted that care of the Indians, "on whom depend the sure conservation of these kingdoms and provinces," was of utmost importance.[21] Using language that referred back to the debates over Spanish belonging, and the paternal role of Spain in the New World, the king ordered Monterrey to carry on with the congregation of the Indians so that they could be taught "things of our Sainted Catholic Faith and taught to live with *policía* and commerce, [like] *people of reason*."[22]

Don Gaspar de Zúñiga y Acevedo, the Conde de Monterrey, assumed the role of viceroy in 1595 and by 1598 had already taken steps to accomplish the congregation of the Indians. In his report to the king he noted that the reduction of the Indians would help their "ignorance and laziness" as well as their inconstancy and "thinness," allowing them better defense against abuses. Comparing the settlement of the Indians in the mountains to the people living in the mountains in Spain, he tried to give the king some sort of reference for understanding their situation. However, he declared that the Indians could not "be explained by example of any nation or *genero* of people from Europe."[23] Monterrey acceded that it was painful for the Indians to be moved from their "nature and patria," to lose their lands, trees, and to have to build anew, however, he asserted that he was carrying on with the congregation for the salvation of souls.[24] He did so with the greatest care and diligence, and as quickly as possible so that the officials in charge of the congregation process would have little time to "attach themselves to the provinces."[25]

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[21] Ibid., 133.

[22] Ibid., 141.

[23] "[Y] el natural de los indios tan desayudado para todo lo que es bien suyo, por su ignorancia y flojedad y por a inconstancia y flaqueza que se les conoce y por su poca o ninguna defensa en cualquier acontecimiento que o se puede explicar por ejemplo de ninguna nación ni género de gente de Europa." Ibid., 159-60.

[24] "Porque aunque fuesen muertes de indios en algunos pueblos donde no saliese tan acertada su mudanza, el dolor de dejar su naturaleza y patria con desesperación de algunos, el sentimiento de perder sus casas, sus tierras, sus árboles y el trabajo de fabricarlo de nuevo todo esto..." Ibid., 160.

[25] "[S]ería bueno abreviar el tiempo a tales jueces quitándoles la ocasión que ofrecen las comisiones largas para aquerenciarse en las provincias en materia de respetos particulares o de propias granjerias, que ambos son grandes contrarios de esta labor." Ibid., 165. This reference probably refers to Velasco's decision not to go ahead with congregation. As Torquemada tells it Luis de Velasco had begun to congregate the Otomi Indians in the mountains surrounding Mexico, but that one experience had changed

Monterrey approached the congregation of the Indians as a project of engineering. To this end he had appointed twenty-seven commissioners who would work alongside the Royal Cosmographer Francisco Domínguez to reorganize the Indians of New Spain into congregations of five hundred people or more. Francisco Domínguez had arrived in New Spain in 1571 as a Royal Cosmographer accompanying the expedition of Doctor Hernandez, but he remained in the kingdom working in various capacities for the next twenty odd years.

Francisco Domínguez

Domínguez's life in New Spain encapsulates the culture of science developing there, and the options and opportunities available to someone trained in mathematics and cartography in the young colony. Domínguez´s path intersected many of the most notable projects of this generation, including Hernandez's project of collection, the *Relaciones Geográficas*, the civil congregations, and another attempt at the desagüe of Mexico City. At the end of his life, Domínguez, under the patronage of Luis de Velasco, petitioned the king for money owed to him for his efforts. [26] He claimed not to have received "any satisfaction at all" from the crown or local government during all of his years of service.[27] Throughout the case he stressed the personal hardships he endured, traveling in dangerous and unhealthy climes, undertaking the costs of overseas communications, and working tirelessly for the benefit of the crown. To back up his claims he included testimony from ten respectable citizens, including two of the original "settlers" of Mexico City, a miner, and a Jesuit. All of them ascertained the validity of his claims, his merit, and his poverty.[28] Like many of the other cosmographers sent out

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his mind. According to Torquemada the viceroy had changed his mind when a married Indian, who seeing that he would have to leave his "house, lands, trees, and magueys (which the Indians valued above all)" went home and killed his wife and children and all the living things there, and then hanging himself declared "that that was the only remedy in such a bad life." Juan de Torquemada, *Monarquía Indiana De Los Veinte Y Un Libros Rituales Y Monarquía Indiana, Con El Origen Y Guerras De Los Indios Occidentales, De Sus Poblazones, Descubrimiento, Conquista, Conversíon Y Otras Cosas Maravillosas De La Mesma Tierra* (Mexico: Universidad Nacional Autónoma de México, 1975). vol. 2, 469.

[26] AGI, *Patronato, 22, R.11, 1594, Méritos Y Servicios De Francisco Domínguez* (1594).

[27] AGI, *Patronato, 261, R.9, 1594, Méritos Y Servicios: Francisco Domínguez*.

[28] Ibid., 17, 32, 64, 78, 92,118, 126, 128.

by the *Casa de Contratación* in this period, none of Domínguez's maps have survived, only his petition for remuneration.[29]

After the completion of the Hernandez expedition, Domínguez participated in the compilation of the *Relaciones Geográficas*. In this capacity he claims to have taken account of all the lunar and solar eclipses that happened in New Spain, sending instructions throughout the kingdom for the compilation of this information. In partnership with doctor Pedro Fárfan, the *armero* Cristóbal Gudiel, and Jaime Juan, a cosmographer who later died "without being able to do any of the things Your Majesty ordered," Domínguez sent in an elaborate set of calculations and figures representing the eclipse of November 17, 1584.[30] This report included a number of figures, and a reading of the eclipse.[31]

This report and the collaboration of its authors provide an interesting glimpse into the networks of knowledge production in the new kingdom, the types of information deemed important for Imperial collection, and the establishment of fact and authority in collecting practices. Joining together in the patio of Doctor Fárfan on December 17, 1584, these four men awaited the eclipse they knew was coming. Their report was a composite effort. The first section of the report included a reading of the eclipse by Jaime Juan, a Valencian cosmographer who was on his way to the Philippines in the company of a painter and a number of instruments.[32] Juan noted that the influence of Venus promised good things for princes, great men, and women of quality. The plebes, he assured his audience, would get along well with their leaders, and they would guard, without burden, their laws. "Those who were born under the sign of Venus and

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[29] In 1596, while acting as Viceroy in Perú Luis de Velasco II backed another cosmographer, Pedro Ambrosio Onderiz (defunct), paying his mother 200 ducados from the money of the Audiencia de los Reyes. AGI, *Indiferente, 527, L.1, F.153v-154r, 11-07-1596, Real Cédula* (1596). I n 1578 the Cosmographer Mayor of the Council of the Indies gave notice that he was inspecting a "geography and universal relation" arrived from New Spain to make sure that the coordinates listed were "accurate" and did not misrepresent Spain's territorial claims, but it does not list the author of said relation, and the document itself seems to have disappeared. AGI, *Patronato, 259, R. 72, 1578, Juan Bautista Gesio: Obra Y Tables De Geografía De Nueva España,* 1-2.

[30] AGI, *Filipinas, 18a, R.5,N.31, 1587, Carta De Vera Sobre Situación, Comercio, Japoneses, Etc.*. (1587).

[31] AGI, *Mp-Mexico, 34, 1584 (Pos) México, Eclipse Lunar* (México: 1584).

[32] AGI, *Filipinas, 339, L.1, F.225r-227r, 1583, Instrucciones Al Cosmógrafo Jaime Juan, a México Y Filipinas* (1583), AGI, *Filipinas, 339, L.1, F.235v-236v, 1583, Salario De Un Pintor Que Va Con Jaime Juan, Cosmógrafo* (1583).

musicians will have great luck, because with much pleasure and contentment they will take part in joyous games, engagement parties, soirees and other kinds of merrymaking." According to Juan the eclipse would also have a positive affect on the weather, bringing "humid and temperate winds with serene weather and comfortable and healthy rains." Pilots would have good and prosperous voyages and merchants would make great gains, Rivers would grow and trees would give "singularly great fruit."[33] However, Juan noted that the influence of Tuarus might cause perturbations among ecclesiasts and death among venomous reptiles and animals.[34] Juan also included a technical section in Latin that described the figure of the eclipse and the all of the angles. Next Cristobal Gudiel, the Royal Armorer, described the events and results, assured the Crown that the experiment had been done "according to the instructions sent by Your Majesty." Next Francisco Domínguez drew the circles and angles of the measurements, with each axis labeled and the degrees given. Finally Doctor Fárfan, the Royal Protomedico confirmed the proper procedures taken, summing up the experiment.[35] Obviously, these men believed that their concurrence about the procedure and outcome would lend credence to their findings.

In his role as Royal Cosmographer Domínguez engaged in a variety of activities aimed primarily toward the expansion of Royal prerogatives. Gathering information from the pilots and sailors coming and going from China and the Philippines, Domínguez claims to have compiled maps and charts of the Pacific, which he then sent on to the Crown.[36] Later, under the orders of the Conde de Coruna he made a "general table" of all

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[33] "[D]iremos por ser Venus planeta noble, benevolo, y estar en la figura poderoso bien affecto y directo y assi los affectos seguiran la naturaleza de Venus, la qual en esta figura significa y en camina a los hombres salud y tranquilidad y reposo, buenos temporales ricos de fructos, preciosas albajas y regladas comidas, acrescentamiento de las riquesas, buen nombre y fama acerca de los principes, dignidades y honras Allega y cause grandes amistades y agredables entre principes y reyes y de mugeres de qualidad. Los plebeyos se auran bien con los principales, y guardaran sin pesadumbre sus leyes, los que fueren en sus nascimientos subjectos a ♀Venus y los musicos gozaran de buena y dichosa suerte, porque con mucho plazer y contenta se cumplaran en juegos regozijos y desposorios y saraos y otras fiestas----En lo que toca a los tiempos paresce que ahora algunos vientos humidos y templados con tiempo sereno y comodas y saludables lluvias. Los navegantes ternan felizes navegaciones y prosperas y los mercaderes grandes ganancias. Parece que cresceran los Rios y fuentes dulces en mas abondencia de lo ordinario. Los arboles daran singulares y buenos fructos." AGI, *Mp-Mexico, 34, 1584 (Pos) México, Eclipse Lunar*, 7.

[34] Ibid.

[35] Ibid.

[36] These maps are no longer extant.

the provinces and their dispositions with all of the bishoprics and the jurisdictions of all the orders. During the reign of Pedro Moya de Contreras he made a similar description of New Mexico, its inhabitants and neighbors, which he sent to His Majesty with the Franciscan, Frey Geronimo de Burgos Descalco. He also "brought to light" a table and general description of the kingdom of China, through correspondence with the provinces in which he verified the pictures, relations, and eclipses.[37]

His activities were not limited to mapmaking. In 1579 after some flooding in the city, Domínguez drew up an opinion concerning a course of action. His report concluded that a general desagüe, of the type that Martínez would later construct, was not "convenient" because of cost, both in money and in the lives of Indians. In this period he and Jaime Juan also helped to settle a land dispute between the Archbishop of Mexico City and the Archbishopric of Michoacán over the province of Querétaro.[38] Domínguez also seems to have tried his hand in the silver industry, and claimed to have been working on a technique of sliver smelting that would use much less quicksilver and provide a greater output. He stressed the service such an invention might render to the coffers of the Crown in his appeal for royal patronage.[39] In 1582 he sent in a description of a fort to be built in Acapulco along with viceregal correspondence.[40] All of this activity played into the bureaucratic organization of territory, and it exemplifies Antonio Barrera's claim that the needs of Empire stimulated the production of empirical knowledge.

As the Cosmographer Mayor of New Spain, Domínguez also claimed to have been responsible for the manufacture of the instruments necessary for navigation such as

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[37] AGI, *Patronato, 261, R.9, 1594, Méritos Y Servicios: Francisco Domínguez*.

[38] In his testimony on behalf of Francisco Domínguez´s request for honors from the Crown, Geronimo Gudiel declared, "este testigo que concido por los dichos Virreyes el telento y buen ceso leal dicho Francisco Domínguez y su modo de proceder le han cometido las causas de algunas diferencias que sean ofrecido entre partes de que se aseguido siempre concordia entre los interesados y aprobación de lo fecho y particularmente la diferencias antigua y muy litigad que abia entre este arzobispo y obispado de Michoacán sobre la providencia de Querétaro este dicho Francisco Domínguez fue nombrado para el dicho efeto por parte del dean y cabildo desta santa iglesia y Jaime Juan cosmógrafo de su majestad fue nombrada por la parte del dicho obispado de Michoacán y con la determinación de los dos se acabaron muchos pleitos y diferencias." Ibid., 123.

[39] Ibid., 3.

[40] This Project was not completed until 16 when Adrian Boot, the Flemish engineer sent to work on the desagüe was contracted to complete it sometime in the 1630s. Deominguez's plan does not remain with the cedula. AGI, *Mexico, 20, N. 92, 1582, Cartas Del Virrey Conde De La Coruña (1580-1583)* (1582), 50.

"cartal ballestillas," (needle clocks), the regiments of the sun and stars, and the testing of pilots. Reminding the Crown that his instructions helped to "make their navigations better and safer" he renewed his plea for funding. [41] It is unclear whether Domínguez had a workshop where he oversaw the production of these items, or whether indeed he conducted examinations of pilots, but this was the common function of Royal Cosmographers in Seville, who taught and tested pilots. Their lessons were based on some of the classic works, including Sacrabosco's *Sphere, Teóricas* by Puraqui, the *Tables* of Alfonso X, the first six books of Euclid, Ptolemy's *Almogeto* and a manual on how to use the astrolabe and many other instruments.[42]

Antonio Barrera-Osario has examined the duties of cosmographers and the practice of testing in the context of the accumulation of natural knowledge for imperial prerogatives. He notes that "[a] competent pilot thus was defined as one with direct experience of the New World as well as the knowledge and literacy to use and read instruments and charts- able to answer theoretical as well as practical questions about navigation and cosmography from his peers." Barrera contends that "[t]he certification in effect institutionalized practical knowledge associated with experience, literacy, and instruments and created a group of experts who validated the knowledge of individual pilots."[43] These cosmographers played a key role in this institutionalization and generalization of cosmographic and navigational practices.

These exams established the theoretical and practical knowledge of pilots, but they also demonstrate the xenophobia of the Spanish imperial project, which was just as concerned with *limpieza de sangre* as navigational skills. For example, in the examination of Francisco Pavon, from Triana, in 1593 under the Cosmographer Rodrigo Zamorano, witnesses were asked more questions about his personal life than his professional life or knowledge. Witnesses were asked about Pavon's personal life and habits, whether he had piloted the route before, who his parents were, and whether he was

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[41] AGI, *Patronato, 261, R.9, 1594, Méritos Y Servicios: Francisco Domínguez*, 3.

[42] Allison Sandman, "Mirroring the World: Sea Charts, Navigation, and Territorial Claims in Sixteenth-Century Spain," in *Merchants and Marvels: Commerce Science and Art in Early Modern Europe*, ed. Paula & Pamela H. Smith Findlen (Rutledge, 2002), 95.

[43] Barrera-Osario, *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution*, 42.

legitimate. Finally, the court wanted to know if he had any "defect" and if his parents were "Old Christians of clean blood- and not Jews or Lutherans nor newly converted."[44] This preoccupation with *limpieza de sangre*, purity of blood, highlights the Crown's fears of the contamination of the colonies, which were seen to be susceptible to same types of insurrections which had cost Spain the Low Countries. Likewise concerns over legitimacy speak to the need to limit social mobility, and the social status of pilots, who had to conform to the requirements of *limpieza de sangre* to obtain this position of prestige.[45] Safer navigation meant, above all, loyal pilots capable of representing the Crown in foreign lands, and Royal Cosmographers were charged with this gate keeping duty.

As the Cosmographer Mayor in New Spain, Domínguez wore many hats, from settling land disputes to silver mining. He also worked closely with many different viceroys on many projects, yet he died "poor" and unremunerated. Upon his death Domínguez left money for a chaplaincy with an annual rent of 150 pesos to be taken from his estate, which was owed by the Crown. In 1644 this sum was still being sought.[46]

In his work on the congregations Domínguez was in charge of compiling the descriptions and representations brought back by the specialists sent out to the proposed sites. In his descriptions to the king, Monterrey played up the importance of witnessing, noting that these men would "personally see" the available lands, waters, and natural resources to determine the best locations for the congregations. Once this was accomplished they would make a "painting" demonstrating the locations that they had elected. They would also ascertain the "temperaments" of both the people they were congregating and the places they chose "so that people who inhabit[ed] and [were] born in cold places would not be moving to hot ones" and vice-versa.[47]

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[44] AGI, *Contratacion, 53a, 1593-1598, Exámines De Pilotos* (1593-1598).

[45] In her work on legitimacy, Ann Twinam has demonstrated that it was more important for information to be "public and notorious" than for it to be true when it came to official sanctions of social elevation. see: Twinam, *Public Lives Private Secrets: Gender, Honor and Illegitimacy in Colonial Spanish America*.

[46] AGN, *Capellanias, Vol. 269, Ex. 200, Fs. 154-154v* (1644).

[47] "Demarcarán la tierra de todo el distrito de cada una de las cabeceras que llevan a su cargo y verán personalmente cuanto sea posible la tierra, disposición y sitio dellas, y la población que hoy tiene de pueblos y caseríos y sujetos, temples, aguas, tierras para cultivar y fertilidad dellas, montes y pastos de toda la dicha demarcación. Harán pintura clara y cierta con bastante demostración de todo, declarando en ella

The surveyors were also instructed to look at the private ownership in the area, Spanish and Indian, examining the foundation for possession and marking these plots in the "painting" they presented. Likewise they were to signal roads and their destination, to mark possible places where products might be sold. Monterrey's insistence on the visual representation of these locations and their relation to other things suggests the growing importance of mapping, and the importance of the visual in knowing the natural world. These officials were to know the languages of the Indians being reduced and their "dispositions and temperaments" and whether they lived mixed in with one another or not. Then they were to post notices in the areas to be congregated giving the Indians warning in case they wanted to dispute these proposed sites, or propose alternatives in the form of paintings.[48]

During the congregation process Indian groups effectively used the tribunal set up to handle the issue of congregation to challenge their relocation. Sometimes Indian communities disagreed with the location of their impending congregation; sometimes they found fault with the official named in carrying it out; and, at other times they had problems with the communities with whom they were to be joined.

For the most part the Indians rejected proposed sites because the land they had was better than that of the proposed congregation, and it seems that the Conde de Monterrey was sensitive to the loss of resources. The Indians of the pueblos of Santa Cruz

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las distancias y la parte donde cae cada cosa. Y de todo lo que así vieren y demarcaren, elegirán en cada cabecera el sitio o sitios que les pareciere más conveniente para hacer la nueva población y congregación, en que ha de haber todas las cosas necesarias y convenientes según la gente de la cabecera y sus sujetos, conformándose siempre con los temples de los naturales, de suerte que los que habitan y son nacidos en tierras frías no pasen a las calientes y por el contrario…"AGN, *Indios, Vol. 6, Pt. 2, Exp. 930, Fs. 237v-239* (1598), 237r.

[48] Y pondrán el pro y contra de lo que sintieren de la elección y arbitrio, y asimismo darán noticia a los naturales publicándolo en las iglesias donde los de aquella cabecera se congregan a oír misa, sin faltar ninguna iglesia en días de fiesta, y estando juntos les darán a entender cómo yo por orfen de su majestad he acordado de congregarlos y juntarlos sin réplica ni excusa y que se trata de que sean aquellos sitios por ser los más convenientes para su comodidad y vivienda, de donde ya no se han de mudar ni pasar a otra parte y porque en todo se procura su utilidad y provecho, digan si tuvieren de qué advertir en cuanto a los dichos sitios y sus calidades, advirtiéndoles con sólo lo que entonces dijeren y averiguaren se ha de determinar por mí lo que más convenga y se justicia, sin que sean ni haya de ser oídos en otra forma judicial, y de los que dijeren, no pareciéndoles conveniente mudar acuerdo por las advertencias que hicieren, que en tal caso podrán mudarse y escoger otros sitios, tomarán de su parte otra breve y sumaria información de personas desinteresadas y de confianza para justificación de sus contradicciones, excusando cuanto fuere posible los perjurios, y hecha esta información con la de su oficio lo juntarán y traerán ante mí con la pintura y su parecer jurado."Ibid., 238.

Guapalco, San Miguel Necocetengo, San Martin Cuaoxtoc and Tlamimilpan argued that they should not be moved to Ocuituco, but should stay in Tlamimilalpan because there they had very good land and many tunas, which they would lose if they were moved.[49] In the case of the proposed congregation of San Mateo Techatlauco, the inadequacy of the site was not the only reason that the plan was contested. The towns of San Felipe Zacatepec, Santo Tomas Atlauco, San Mateo Texcoacac, San Martin Coyoacan, San Juan Tlaxinga y San Marcos Cuauhquiuca, of the doctrina of Chalma and the *parochia* of Mexicapan refused to be congregated in the pueblo of San Mateo Techatlauco. They complained that not only was there a lack of firewood and water in the new location in comparison with the abundance of their then current site, but also that the Indians of San Mateo had always been their enemies.[50]

In several instances congregation inconvenienced indigenous ranchers, who asked to be able to keep their herds and other accessories in their former locations. Francisco Garcia was a leader of the Barrio of Palapan of the headtown of San Juan Teuteguacan, who had some 2,000 head of sheep on land "of his homeland and his inheritance" in the barrio of Palapan. He requested to be allowed to leave the sheep, a corral and a home, to house the people who looked after the sheep in the barrio as there was no place for him to keep them in the headtown. The Conde allowed him to keep the sheep and corral there, but ordered that the house be torn down.[51]

Likewise local Spaniards contested the proposed congregation, citing the loss of labor on their haciendas. Bernardino de la Fuente argued that his haciendas would be ruined if he lost the labor of a number of *indios gañanes* (laborers), and asks that as was the case on many other haciendas, he be left with "similar Indians."[52] Fuente claimed that the mines are totally dependant on the “fruits” of the local haciendas, and argues that if the Indians are removed completely it will totally destroy the mines in his province.

On the whole, congregation was not a foregone conclusion and Indian towns and groups did have recourse to object to the location chosen or suggest a preferable situation. Yet, according to Monterrey the areas that put up the most fuss were those near

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[49] AGN, *Congregaciones, Vol. 1, Exp. 13* (1603).
[50] AGN, *Congregaciones, Vol. 1, Exp. 31, F. 19-20* (1603).
[51] AGN, *Congregaciones, Vol. 1, Exp. 12, 8v-9* (1603).
[52] AGN, *Congregaciones, Vol. 1, Exp. 14, F. 9v* (1603).

Mexico City and Puebla, where Indians were already familiar with colonial practices. Using the courts, some groups were able to avoid congregation. For example, because the *principales* and naturales of the pueblo of Santiago Azala were opposed to being congregated in Chietla, the Conde de Monterrey ordered that the *corregidor* arrange a cleric from the convent to be sent to Santiago Azala to indoctrinate and say mass.[53]

Despite Monterrey's seemingly genuine attempts to protect the Indians, the process had its critics. Juan de Torquemada, for instance, argued that although it had been done with the Indians wellbeing in mind, the civil congregations were one of the worst things that could have happened to them. First, the friar complained that the process had been exceedingly expensive – the "vista" or examination of places alone cost two hundred thousand pesos. Second, he accused many of the commissioners hired by Monterrrey of having selected the worst land possible for the congregations, because they had been bribed by wealthy Spanish land speculators.[54] Then, when the judges came to move the people, they were not the same ones who had delineated the congregations. Moreover, these judges repeatedly moved Indians to different areas, having, in turn, been bribed by other parties. Torquemada lamented that "it was a sad thing to see in some parts, [the judges] tearing the Indians out by the root and taking them to other parts where they barely had any shelter, and it being the rainy season and [the Indians] being soaking wet, and barely removed from their homes, when they burned their houses and they drove them like dogs in front, crying and by force, and they put them in the new places, with

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[53] AGN, *Congregaciones, Vol. 1,Exp. 26, F. 18v* (1603).

[54] "La instrucción de la comisión era, que junto el comisario con el ministro de doctrina, cada cual en su jurisdicción, ambos diesen su parecer (debajo de juramento) de lo que más convenía congregarse y en qué partes y puestos; pero como había muchos interesados en razón de tierras y sitios de instancias de nuestros españoles (que siempre han sido polilla de estos indios), sucedía que el lugar que pudiera ser mejor para hacer la congregación se desechaba por peor; no porque lo era, sino porque lo hallaban bueno para una estancia de ganado o para una labranza de pan. Y como andaban de por medio dádivas, perecía el indio y el español prevalecía; y esto no es hablar al aire, sino referir verdades conocidas. Tampoco quiero decir que al príncipe alcanzaba estas maldades ni que eran todos los jueces los que las cometían; pero al fin pasaban y eran y han sido tantas, que era menester mucho tiempo para decirlas todas; porque aunque es verdad que el comisario y ministro andaban todos los sitios y puestos, como después de haberlo entrambos visto y comunicado se daba el parecer de lo que más convenía, decía el comisario: esto ha parecido al ministro, pero a mi me parece que esto estará mejor; y no era porque lo estaba, sino porque por ventura se lo había pagado; y como ya por nuestros grandes pecados son las verdades que dicen los religiosos y eclesiásticos en estas indias razones sospechosas para los que mandan, críense las que ellos decían y las de los ministros se olvidaban."Torquemada, *Monarquía Indiana De Los Veinte Y Un Libros Rituales Y Monarquía Indiana, Con El Origen Y Guerras De Los Indios Occidentales, De Sus Poblazones, Descubrimiento, Conquista, Conversíon Y Otras Cosas Maravillosas De La Mesma Tierra*. Vol. 2, 468.

nothing more than a shelter of branches, many with the sides uncovered. If they clamored about some inconvenience they were not heard and if they were quiet they were treated like beasts."[55]

According to Torquemada the congregation had pros and cons. The pro was the facility in indoctrination. The con was the mortality of the Indians, who being "poor and thin with the work of having to build the houses of the community and the leaders, and their own houses" succumbed to illness and consequently causing "great mortality." This was made worse, Torquemada insinuated, by Spaniards who "closed in on them, not allowing them space for a horse to pace, or a chicken or a little pig."[56]

Surveying the kingdom in 1607, the Visitador Diego de Landeras y Velasco argued that the primary problem in the land was the number of royal officials. This number was even greater because the *jueces* de congregation were still accommodating the Indians. Landeras compared the Spanish functionaries to "locusts." According to the *visitador* each viceroy, in an effort to appease his retainers and clients, created numerous functionaries, such as *jueces*, who were then forced to live off the Indians, as they had insufficient salaries to satisfy their ambitions. According to Landeras, just as the Indian population was diminishing the number of *jueces*, *tenientes*, y *alguaciles* was multiplying, and "like locusts destroy the earth" so too these officials "were sucking the blood of the miserable Indians."[57] To drive his point home he recounted the story of an

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[55] "Fue cosa de lástima ver en algunas partes arrancar de cuajo a los indios y llevarlos a otras donde apenas tenían una ramada donde meterse, y ser el tiempo de aguas y bañarlos por todas partes, y no haberlos bien sacado de sus primeros puestos, cuando les tenían quemadas las casas y los llevaban como perros por delante, colorando y por fuerza y los ponían en los lugares dichos, sin .as casa que una ramada y algunas descubiertas por los lados. si reclamaban sobre algún inconveniente no eran oídos y si callaban tratábanlos como a bestiales.." Ibid. Vol. 2, 468.

[56] "El contra o los daños que se teme que se les han de recrecer de ello parece que son grandes, porque donde quiera que los han ayuntado y congregado se han muerto muchísimos de ellos (como lo hemos visto en Huexotzinco y San Francisco de el Río, que es Tepexic) y otras partes, que como son flacos y pobres, con el trabajo de haber de hacer casas de comunidad y de principales y sus propias casas y mudar sitio, es visto y entendido que ha habido grandes mortandades, donde ha habido mudanzas y otros inconvenientes que dejan sus tierras labradas; y a la hora han de entrar en ellas españoles y los han de cercar, hasta no dejarles donde pueda pacer algún caballo que tienen o algún proquezuelo y gallinas, y así cosas semejantes."Ibid. Vol. 2, 471.

[57] Emphasis mine. "Una de las cosas mas dignas de Remedio que a mi parecer ay en esta tierra y de que mayores daños y inconvenientes resultan mayormente a los miserables indios es la mucha adumbre de jueces y sus ministros que creo son tantos que cuando se repartieren entre cuatro Reinos como este fueran muchos de ellos superfluos y aun perjudiciales al buen y justo gobierno cuando esta tierra se acabo de conquistar hubo luego jueces españoles y aunque los indios *eran innumerables* se tuvo para certado hubiese

Aguacil whom he had met on the ship coming over. This particular functionary had a salary of five hundred pesos, but Landeras noted, that when he had asked him how he was doing, the Aguacil responded that he thought he might bring in around ten thousand pesos that year.[58]

Landeras was deeply unpopular among colonial officials and was later denounced to the Council of the Indies by an anonymous author, who accused him of being both "choleric" and "badly raised" (*mal criado*). Noting the humbleness of the kingdom and its reverence for justice, the author declared that Landeras could drive such men to desperation with his lack of breeding and respect for status.[59] For this and other reasons, Landeras was eventually removed and replaced by Juan de Villela the President of the Audiencia of Guadalajara who arrived in 1609.[60]

Nevertheless, as we saw in Monterrey's desire to finish congregation before the officials might "become attached" to the land, Landeras' critique of royal officials was a well recognized fact, and the congregation process only exacerbated this problem. Monterrey was unable to complete the congregation, despite the fact that he was given an extra year on his term. He left the completion to his successor the Conde de Montesclaros who started in 1603, and continued the process during the three years of his

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pocos corregidores por el daño que recibieron los pueblos si fuesen muchos y ala audiencia desta ciudad le pareció que esos residiesen en ella y no en sus oficios sino es cuando la audiencia les ordenase fuesen avistar sus corregimientos esto apreció la señora Teyno doña Juana por su cedula en diez y seis de febrero de mil y quinientos y treinta y tres años, los cual yo tengo en mi poder pero después poco apoco los virreyes por tener mas en que ocupar criados y allegados y otros personas siéndoles indios cada día menos, han aumentado tanto el numero de jueces y tenientes y esto el de alguaciles que como langostas destruyen la tierra// do jelequas en el verguiíto desta ciudad ay treinta y un corregimientos o alcaldes mayores con estar en este distrito la laguna que tiene siete leguas de acho y nueve de largo, Por el virrey ? por los mismos jueces y como los salarios de todos son tan cortos y tienen animo y codicia de enriquecer en los oficios chupan la sangre de los miserables indios por mil caminos…" AGI, *Mexico, 92, 1543-1670, Cartas Y Expedientes De Visitadores Y Jueces De Comisión*.

[58] "[U]n alcalde mayor que vino en esta misma flota proveído por V majestad con salario al que me dijo de quinientos pesos preguntándole como le iba en su oficio me respondió que pensaba le que darían por este año diez mil pesos."Ibid.

[59] "El hombre es inexorable, colérico, arrojado y mal criado y que trate mal a los hombres y les dice palabras tales sin reparar en la calidad y condición de ninguno, que sin cayera en parte donde por la misericordia de dios el nombre de V.M. y la sombra de una vara de justicia es tan respetada y reverenciada como lo es en lo mas humilde y obediente de estos reinos, se pudiera que trajera a los hombres a una desesperación." Pilar Arreguí Zamorano, *La Audiencia De México Según Los Visitadores, Siglos Xvi Y Xvii* (Mexico City: Universidad Nacional Autónoma de México, 1981), 90.

[60] Alex Conrad Hayton Herrera, "Aspectos Jurídicos De La Visita a Nueva Vizcaya Practicada Por El Obispo-Visitador Juan De Palafox Y Mendoza" (Tesis Digitales, Universidad de las Américas Puebla, 2003), 37.

term. In 1607 when Velasco resumed his second term he put an end to the congregations, issuing a *cedula* that allowed Indians to return to their former settlements. It is unclear why Velasco made this decision, or what happened to these communities. Perhaps it was a reaction to complaints about the number of functionaries, who were after all still drawing some salary from viceregal coffers. But it is very possible that Velasco's decision was influenced by the fact that he was about to embark on a massive engineering project, one that would not only tax the local economy, but also the will of the Indians, who would provide the forced labor needed to build it.[61]

II. Threatening Waters: Enrico Martínez and the Desagüe

In 1604, Enrico Martínez, a German polyglot astrologer and printer by trade, made his way into the city to meet with Juan de Mendoza y Luna, the Conde de Montesclaros (viceroy 1603-1607) concerning recent flooding. The viceroy, still busy with the congregation of the Indians, called for proposals to solve this problem, and Martínez was one of many to make a bid. In order to submit his proposal, Martínez would have made quite a journey from the Indian town of Cuauhtitlán, where he ran a printing press, to the viceregal palace located in the *traza*, or Spanish section of the city, crossing between two different but interconnected worlds. It was a journey that the printer and cosmographer must have frequently made in his many dealings with viceroys, Inquisitors, and business associates, and was therefore within his normal routine. Cuauhtitlán, which means "between the trees" in Nahautl, was a thriving satellite of the capital with a diverse population. The Codex Chimalpopoca narrates the history of Cuauhtitlán describing how the Colhuas came to erect their temples, "invent" things such as bowls, utensils, and pots, and organize the land "because the chichimecs had done no more than go about changing places" before the arrival of the Colhuas, who ruled Cuauhtitlán until 1450 when it came under the power of Tenochtitlán.[62] Evangelized by the Franciscans, Cuauhtitlán was

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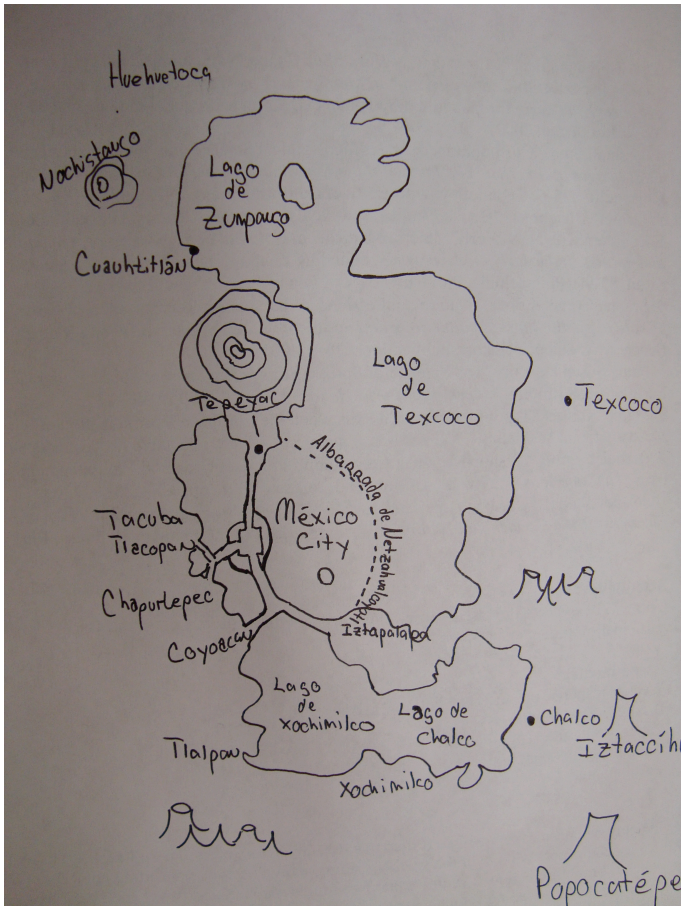
[61] The termination of the congregation is not well understood. Howard F. Cline notes merely that some of the new congregations took root, and that other Indians left and then returned, but without the formal apparatus that officials had hoped for.Cline, "Civil Congregations of the Indians in New Spain, 1598-1606.", 357.

[62] (12 tecpatl- 13 calli) "Tambien vinieron a inventar todo: diferentes atavíos, loza, esteras, ollas, escudillas y tantas otras cosas. Ellos dieron forma la pueblo de Cuauhtitlan y lo asentaron en la tierra, porque no más andaban cambiando lugar los chicimecs. Ellos introdujeron la idolatría y añadieron muchos

home to a monastery and the famed Indian, Juan Diego, who received the image of the Virgin of Guadalupe, whose shrine at Tepeyac, on the other side of the sierra, was already attracting visitors.

From Cuauhtitlán Martínez would most probably have gone by water to reach Mexico City, which was still intersected by numerous canals that brought constant canoe traffic in and out of the city. Resting on the southern shores of the Lago de Zumpango, Cuauhtitlán was part of a network of cities surrounding the connected lagoons of Zumpango, Texcoco, and Chalco. These waters facilitated trade between these outlying towns and the capital, but they also threatened these places' existence, rising as they had in this year due to heavy rains.



Mexico City, Cuauhtitlán, and the Lagoons
Drawn by author

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de sus dioses; y cuando y fueron bien queridos de los chichimecas, empezaren a labrar la tierra." *Códice Chimalpopoca: Anales De Cuauhtitlan Y Leyenda De Los Soles*. Item 128, 31.

Built on an island, in the southwest portion of the largest of the lagoons, Mexico City was especially susceptible to flooding. During this time period, heavy rains threatened Mexico City on three different occasions (1604, 1607, and 1629). In each case, heavy rains caused the waters of the lagoon to rise precipitously causing the streets to flood, destroying the low lying houses of the poor, and forcing more well-to-do residents to the upper stories of buildings. Canoes provided the only means of transportation and many fled the city. Eager to save their property, residents looked for solutions such as the desagüe, a drainage tunnel, first proposed in 1556 under Velasco's father. Others, such as the king, favored moving the city to a more secure location. Either project depended on the rapidly diminishing labor of the Indians.

The story of the desagüe and Martínez's participation in this project highlight the personal politics involved in this construction and the culture of science developing in the colony. Martínez's ascent, from foreign artisan to the Maestro del Desagüe, illustrates the fluidity of New Spain and the importance of patronage, while his varied career as an interpreter, astrologer, cosmographer, and printer highlights the avenues open for men of science. Martínez was able to keep the position of Maestro, or engineer, for 25 years, despite bitter complaints and stiff competition.

At the same time the story of the desagüe speaks to the issue of Indian labor, adding another voice to the discourse on "consumption" and depopulation. As we saw in chapter three, the issues faced by Spaniards had their roots in the pre-conquest construction of the island city, and Indian labor and know-how were crucial to building and maintaining the city's water works. In 1555, unable to secure the approval of the members of the local *cabildo*, who did not want to have to compete with the desagüe for Indian labor, Luis de Velasco relied on the recommendations and labor of the Indians to rebuild the Albarradón, or retaining wall that shielded the island from the waters of the largest lagoon. Although the desague employed a solution that Martínez claimed was superior to Indian technology, it still relied on Indian labor, and the diminution made both the construction and later the "perfection" of the project urgent issues.

Enrico Martínez: Printer, Cosmographer, Astrologer, Interpreter, Engineer.

In the late 1590s Enrico Martínez was living among a group of German and Dutch artisans in the Indian town of Cauhtitlán making type for a very successful apprentice printer Adrian Cornelius César. When the Holy Office of the Inquisition arrested one of these men, he seized the opportunity for advancement and became a translator of Dutch and German. With the help of his translations Inquisitors soon had a list of possible heretics, and Martínez had steady employment. In this capacity, Martínez frequently "translated" more than just the testimony of his neighbors and countrymen. Adrian Cornelius César, his former employer was one of the first to be named. Cesar was a Flemish printer from Holland who worked for the House of Ocharte that had just commissioned the first locally constructed press in New Spain. César became involved in the trials early on, when Pedro Pedro, a young sailor, accused him of suspicious activities. With the help of Martínez's translation skills, Pedro Pedro charged César of advising him not say anything against the Catholic religion in front of any Spaniards. César apparently warned Pedro that if he should be asked where he was from, he should reply that he was "Christian by the grace of God."[63] He also accused César of having turned down the hand of a wealthy Spanish woman, probably the widow Ocharte, preferring instead to go back home to find a Protestant wife.[64] Martínez then filled in some missing information, telling the court that César had been living in the house of the widow Ocharte, but that at the time of the trials he was living in Cuauhtitlán where he had ordered a press. Martínez knew this because he was making the type for it.[65] Martínez's "translations" in this instance bring home his personal involvement with César, and his ability to understand the kind of information sought by the Inquisitors. For example, in one part of his original Dutch testimony, César mentioned a "Harper of Hamburg," and Martínez added "from Hamburg of Lower Germany, where everyone is

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[63] "[D]ixieron que no hablasse palabra alguna a contra la Ley Catholica delante de ningun Hespañol….. y que si le preguntasse en de donde era dixi esse que era Xpiano or la gracia de Dios." AGN, *Inquisicion, Vol. 167, Exp. 1, F. 68* (1598).

[64] Ibid.

[65] "el dicho interprete dijo que era verdad que solia vivir en casa de dicha biuda pero que agora vive en Cuauhtitlán quatro leguas de aquí, donde está ordenado una imprenta y que el dicho intérprete le está haziendo letras para ella." Ibid.

Lutheran."[66] Later when César recounts, "we were eating… where we usually were," Martínez "translated" this as occurring "at the house of Lucas."[67]

At the end of the trial, Martínez was given Cesar's press and he wasted no time setting up a successful printing business in Cuauhtitlán. Within a year he had printed his first work, a religious manual in Nahuatl written by the venerable Fray Elias de San Juan Baptista, who seemed to have had a prior arrangement with César.[68] Later he also would publish Baptista's translation of the *Huehuetlatolli*, a book of Aztec sayings and speeches that was one of the era's most famous works. Martínez chose as his symbol a stork with one foot on a skull, and a banner between its foot and beak that read "*vigilate o et aliga*." Francisco de la Maza, Martínez's main biographer notes that this symbol, minus the banner, was in use both by Montes de Oca in Seville from 1553 to 1570 and by Guillermo Drouy in Madrid from 1578 to 1589, suggesting that Martínez might have had contact with one of these Spanish presses.[69] Martínez quickly developed a style and technical ability that made him one of best printers in Mexico at that time. By 1604, he seemed to have perfected his craft, and Pascoe attributes the superb quality of his print to

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[66] Juan Pasco has taken a section of the trial of the printer Adrian Cornelio César and reproduced it in three columns: the original Dutch of César, a Spanish translation of the Dutch done recently by two professors at the Universiteit von Amsterdam, and the "translation" done by Enrico Martinez. A short excerpt of this reproduction is adequate to convey an impression of Martínez's particular skills.

I. César's original testimony:

"The assistant of Cristóbal, Harper of Hamburg, arrived in San Lucar with the slaves from England where he put his "skin" on, and likewise those who came from Fria (Friesland)"

II. Martínez's "translation":

"He said that Herbert, the servant of the said Cristóbal Miguel is a native of the city of Hamburg in Lower Germany, where everyone is Lutheran. And thus, one may presume that he is Lutheran, and also for praising (?) in San Lucar that he came from Friesland in a boat that went to England where they bought slaves that the English robbed and because those from Friesland are Lutheran, not to mention the English, one may presume that they were not harmed. What he has said in regards to being Lutheran and having lost the ship in San Lucar, although later they returned it to a resident of that place, whose it was, and the slaves remained lost." Juan Pascoe, *La Obra De Enrico Martínez: Cosmógrafo Del Rey, Intéprete Del Santo Oficio De La Inquisición, Cortador Y Fundidor De Caracteres, Tallador De Grabados, Impresor De Libros, Autor, Arquitecto Y Maestro Mayor De La Obra Del Desagüe Del Valle De México* (Santa Rosa: Taller Martín Pescador, 1996), 1598.

[67] Ibid., 1598.

[68] Ibid., 1599.

[69] Francisco de la Maza, *Enrico Martinez Cosmografo Y Impresor De Nueva España*, ed. Instituto de Investigaciones Esteticas de la Universidad Nacional (Mexico: Soc. Mex. de Geografia y estadistica, 1943), 34.

the newness and levelness of his press and type, but also to Martínez's "educated aesthetic and critical sense."[70]

As a printer, Martínez engaged with the intellectual and political elite of the city. Examining printing houses in Europe, Elizabeth Eisenstein argues that print shops were more than the site of the production of books, but places where cross-cultural exchange occurred and places where artisans and scholars mixed. She notes that a master printer not only managed any number of assistants and technical details, but also dealt with local authorities, censors, authors, and editors, making the print shop a vital part of an unofficial *inteligencia*.[71] In Mexico City this meant dealing with the Inquisition, authors, viceroys, and archbishops. Every book that went through his press first confronted a barrage of readers checking for doctrinal errors and "usefulness" to the colony.[72] These dealings meant that Martínez was familiar with both the constraints of the Inquisition and the mechanisms behind patronage and permission to print.

Like many printers in this period, Martínez specialized in astrological works. He printed his own *Reportorios,* also called *lunarios* (lunar calendars) or *cronographias* (chronological works), which were very popular in Spain, and often went into multiple publications.[73] These works described the coming weather and the effects of conjunctions and eclipses. In 1606, Martínez printed his *Reportorio de los tiempos y historia natural de Nueva España* and continued to print other smaller annual *reportorios*, or almanacs throughout his life. His Reportorio covered the years 1606 to 1620, prognosticating the weather and astral events. For example he predicted that the full moon of Sunday the nineteenth of November, 1611, would be in twenty-eight degrees Taurus at 11:36 pm,

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[70] Pascoe, *La Obra De Enrico Martínez: Cosmógrafo Del Rey, Intéprete Del Santo Oficio De La Inquisición, Cortador Y Fundidor De Caracteres, Tallador De Grabados, Impresor De Libros, Autor, Arquitecto Y Maestro Mayor De La Obra Del Desagüe Del Valle De México*.

[71] Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change*, vol. 2 vols. (Cambridge: Cambridge University Press, 1979), 142.

[72] Viceregal consent frequently employs "usefulness" as the language of justification for publication. For instance at the start of Martínez's own work, the Viceroy Montesclaros noted that the work was useful to farmers. Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, xxxii

[73] Jernonimo Cortés's *El non plus ultra lunario y pronostico perpetua,* originally printed in 1598, was still being printed as late as 1841. Jerónimo d Corp Author Enguera Pedro Cortés, *El Non Plus Ultra Del Lunario Y Pronóstico Perpetuo : General Y Particular Para Cada Reino Y Provincia* (Barcelona : Imprenta de D. Manuel Sauri, 1841).

and that the weather would be cold and windy.[74] After this calendar ran out, Martínez and later his son, Juan Ruiz, continued printing annual reportorios and almanacs of health.[75] Judging from the number of authors and printers competing in this market, these works were fairly popular.[76] The famous creole scholar, Carlos Sigüenza y Góngora, authored many such works, although he worried that this practice demeaned his reputation as a serious astrologer.[77]

During this period Martínez also appears to have plied the trade of astrologer. Sixteen years later in 1620, Gaspar de Mier accused Martínez of certain divinations concerning an illness and the duration of his marriage. The case against Martínez highlights the business of astrology in New Spain, the diverse backgrounds of practitioners engaging in this trade, and the types of "cures" and services offered. Along with Martínez, Mier denounced the Maestro Fray Andrés Ximenez of the Order of Santo Domingo and a surgeon named Diego Fernandez de Ayala. Apparently Mier first approached Friar Ximenez about a "secret illness," for which Ximenez made him two gold rings. When these did not work Mier went to Martínez requesting a remedy. When the remedy was unsuccessful, he went back to see if Martínez might be able to find out who had caused him harm. Martínez replied that he would try to "trace" the culprits, and later told Mier that it was a ruddy woman with the help of two other women "of different coloration." Martínez advised him to clean his house top to bottom, in case it had happened in the house.[78]

Unfortunately, the case was never prosecuted, perhaps because of Martínez's connections in the Tribunal. However, it locates Martínez in a milieu that is very well documented, due to an Inquisitional ban on astrology in 1616, which lumped it in with

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[74] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 127.

[75] Juan Ruiz's parentage is unclear. In a marriage license Juan Ruiz claimed to be the son of Luis de Vargas and Juana Leonor, but on his deathbed he claimed to be the legitimate son of Enrico Martínez and Juana Leonor. Whatever the case, Ruiz inherited the press and continued to publish *reportorios.* Maza, *Enrico Martinez Cosmografo Y Impresor De Nueva España*, 27-29. AGN, *General De Parte, Vol. 9, Exp. 136, F. 92* (1643).

[76] In the library of Melchor Peréz de Soto one folder is listed as containing fifty seven different "lunarios," lunar calendars, by different authors. AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto*.

[77] AGN, *Inquisicion, Vol. 670, Exp. 44, F. 1* (1681), AGN, *Inquisicion, Vol. 670, Exp. 71, F. 2* (1693), José Miguel Quintana, *La Astrología En La Nueva España En El Siglo Xvii : De Enrico Martínez a Sigüenza Y Góngora* (México : [s.n.], Talleres gráficos ErS). 1969), 16.

[78] AGN, *Inquisición, Vol. 328 (Tomo I) Exp. 30, Ff 130-133* (1620).131v

"necromancy, geomancy, hydromancy, pyromancy, onichomancy (the art of reading fingernails), and chiromancy," and brought in a wide variety of cases and characters.[79] It is hard to know what sparked Mier to ease his conscience so many years later, but this sort of association would not have been politically expedient to Martínez had the case been taken up. Astrology was increasingly suspect, and Mier's contention that Martínez had predicted the length of his marriage implied the use of judicial astrology, even though Mier claimed not to have known whether Martínez or the surgeon Diego Fernandez had "drawn up" horoscopes. According to Mier neither had been accurate, and his marriage had lasted much longer than either man predicted.

The business of astrology in New Spain revolved largely around finding lost objects, natal horoscopes, and the determination of important dates. To answer these questions astrologers "raised" charts, which could determine the fate of the event, object, or person based on the location of the planets in the ten houses. Many of the practitioners brought up on charges seem to have learned this art using the much copied manuscript of Francisco Juntino, an author cited by Martínez.[80] This work functioned as a how-to manual for the basic problems of astrology.[81] Inquisition cases reveal lost rigs as the most common problem addressed by astrologers,[82] followed closely by cases concerning the determination of auspicious days.[83]

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[79] AGN, *Edictos De Inquisicion, Vol. 1, F. 2-5*.

[80] Juntino also authored a variety of other works, including a redaction of Johannes de Sacrobosco's *de Sphaera.* Francisco Juntino, *Exposición De La Esfera De Ivan De Sacrobosco, Doctor Parisiense* (Salamanca: Jacinto Taberniel, 1629).

[81] This work is cited by Nicolás de Alarcón, a Mercedian monk brought in for making horoscopes for local Audiencia member in 1640. It is also found in the library of Melchor Peréz de Soto, which was inventoried and purged by the Inquisition in 1655, and described in the case of Juan de Figueroa, a soldier who claimed to have found the book in the house of an Indian, and then used it to mount various horoscopes. AGN, *Inquisicion, Vol. 370, Exp. 1, Ff. 1-195, Nicolás De Alarcón (Astrología Judiciaria)*. AGN, *Inquisición, Vol. 440 (Vol.I) Exp. 1, Inventario De Los Libros De Melchor Pérez De Soto*.

[82] For example in 1633 Doña Francisco Caravajal lost a diamond. Her servant, Clara, counseled her to see the wife of a neighbor's slave, who "talked through her chest" and could find lost objects. Doña Francisca paid this woman five pesos, and was told that the diamond would be found in the corral. When this did not occur, Doña Caravajal sent Clara to Tacubaya to an astrologer named Lucas Madrid. Madrid took into account the story of the loss and wrote up a very complicated and somewhat confusing account of the stars and astral influences, concluding that the diamond was buried with the money of a young man between two bricks. He said that the stone would be found by a dark skinned woman, and that it remained in the house of Doña Francisca among the servants AGN, *Inquisicion, Vol. 373, Exp. 20* (1633).

[83] A good example of these types of cases is that brought against the Mercedian friars of Mexico City. In 1622 Fray Juan Menéndez appeared before the Holy Office after hearing the Bula against astrology at the Easter Service. Menendez named several of his fellow Mercedian friars, including the vicar general,

While it is impossible to know whether Martínez engaged in this type of business on a regular basis it is unlikely that the case of Mier was an isolated incident. Especially in these early days before he became Maestro del Desagüe, and before the 1616 edict made the practice of astrology more dangerous. Martínez, above all else, was an astrologer and seems to have believed that it was a valid way to understand the world. The evidence of this is the cover of his account of the desagüe, which is littered with astrological symbols and numbers; scratched here and there, these symbols suggests that he was trying to figure out some crucial problem that can no longer be recreated.[84]

Martínez had also put his astrological skills to work making maps for the expansion projects of the Conde de Monterrey. He first laid claim to the title of cosmographer in 1600 when he sent a map to the Council of the Indies. The map formed part of the report concerning the discoveries of Juan de Oñate in New Mexico.[85] In 1603 Martínez sent in another thirty-two maps "of the coast and ports discovered by Sebastian Vizcayno from the port of Navidad to Cabo Mendocino." By this time Martínez was already using an official title and the maps were attributed to "Enrico Martinez Cosmógrafo of Your Majesty."[86] Each of these maps contained a vague description of the coastline of California, with the names of rivers, and the locations and some description of the inhabitants of each place. The Conde de Monterrey was anxious to see the expansion of Spanish presence into the north Pacific and consequently backed the Vizcayno project and Martínez's graphic representations of these discoveries. The Conde further recommended Martínez to the incoming viceroy, the Conde de Montesclaros, for the project of mapping out the colonization of New Mexico. He stated that he should be consulted in the project because he was a person "who understands mathematics, who has a basic knowledge, and who has studied this field of letters and understands cosmography

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saying that they frequently used judicial astrology especially concerning the lawsuit between the vicar general fray Juan Gómez and the provincial father fray Antonio Gutiérrez AGN, *Inquisicion, Vol. 335, Exp. 94, F. 2 (En Su Convento Practican Mucho La Astrologia)* (1622).

[84] "10 18 47 842 Aquarius, 6. 13 28 862 Libra, 2 28 69 882 Cancer, 11 02 50 902 Pisces, 2 07 31 922 Scorpio, 34= 12 25 58 34, 8 33 22 956 – Sagittarius" AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México.* (1628).

[85] On the reverse of the map it says "sketch of the provinces of New Spain, made by Enrique Martinez, cosmographer." AGI, *Mp-Mexico, 49, Mapa Del Nueva México* (Mexico: 1600 (sup)).

[86] AGI, *Mp-Mexico, 53, 1603 Puerto Navidad Al Cabo Mendocino* (Mexico: 1603).

well."[87] These maps established Martínez's credentials as a cosmographer, and demonstrate the favor he had attained in the Viceregal Palace of Mexico City.

Martínez's work as an interpreter, printer, and cosmographer brought him into contact with the most powerful people in the kingdom, allowing him to overcome his liminal status as a foreigner. His association with the Inquisition not only gave him immunity from prosecution, but also "all the rights in this City of Mexico as in all other cities, towns, and places in the district of this Inquisition."[88] These gave the familiars or employees immunity in civil courts and permission to bear arms "offensive as well as defensive, at day and at night, publicly and secretively."[89] As the physical symbol that distinguished *gente de razon* from the plebe, this right would have been essential for any attempt at social elevation.[90] It would also protect him from the doubt of heresy, and, until his death, even his detractors constantly came back to the fact that he was a "good Christian."[91] His work as a printer provided an economic foundation, while his association with the projects of the Conde de Monterrey legitimated his pretensions to the role of cosmographer.

Desagüe

So in1604, when flooding left much of the city underwater, Martínez was one of many pretenders to propose a solution. His bid was unsuccessful and according to Fray Andrés de San Miguel, one of Martínez's detractors, Martínez's foreignness played into the decision. Miguel argued that the *conde* considered Martínez an "imposter" who thought because he was a "foreigner" he had the right to meddle "in that which he did not understand."[92] However, it also appears that Martínez was not the only person to advance

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[87] Valerie L. Mathes, "Enrico Martínez of New Spain," *The Americas* 33, No. 1 (1976), 65.

[88] AGN, *Inquisicion, Vol. 165, Exp. 5, F. 83* (1598).

[89] "que para guardar y custodia de vuestra persona os dejen traer y traigáis de día y de noche, publica y secretamente, armas, así ofensivas como defensivas."Ibid., 3.

[90] Douglas R. Cope, *The Limits of Racial Domination: Plebeian Society in Colonial Mexico City 1660-1720* (Madison: University of Wisconsin Press, 1994), 18.

[91] Fray Andrés de San Miguel, *Obras De Fray Andrés De San Miguel*, ed. Báez Macías Eduardo, Instituto De Investigaciones Estéticas (Mexico: Universidad Nacional Autónoma de México, 1969), 235.

[92] "[C]oligió el Marqués ser engañador que sólo a título de extranjero se quería meter y dar su parecer en lo que no entendía."Ibid., 234.

the proposal, given that Espinoza de la Plaza, the fiscal and Protector of the Indians, did not mention Martínez in his report on the desagüe's feasibility.

Espinoza's rejection of the desagüe in 1604 revolved around the issue of Indian labor. Addressing the plan put forward by Antonio Pérez de Toledo and Alonso Pérez Rebelto, Espinoza vetoed the plan because he thought that the cost in labor was too high. He noted that it would require fifty or sixty thousand Indians, which, he argued, would stop production in the fields. This, Espinosa suggested, might cause "pestilences and *cocolixtles*," which "happen in times of hunger."[93] He pointed out that the plan called for by the Pérez brothers would have required the Indians to work underground and in the water, where their "nakedness" would make them more susceptible. Espinosa cautioned the viceroy and city leaders that a royal *cédula* from the king demanded that the Indians should not work inside the mines, or in similar situations, "because he [the King] wants more the conservation of the life of one Indian than all the wealth of the Indies." In addition, Espinosa noted that even if it was feasible to construct, the waterway would need to be cleaned out every year due to the erosion from livestock and other elements – a task that aside from the "lack of *naturals,*" would require more wealth than Mexico had. Finally, referring back to Domínguez's report from 1580, Espinosa reminded the council that a similar project had been advanced in the time of Viceroy Enriquez (1580) and that "even then," during a period "of such prosperity and *multitude of Indians*" they had not pursued it for seeming impossible and of little effect.[94] For all of these reasons Espinosa opposed the project, successfully convincing the viceroy and cabildo. Instead the city council charged Fray Juan de Torquemada and Fray Gerónimo de Zárate Salmerón to organize the repair of the *albarradón*, or retaining wall, to dredge the waterways, and to clean and cobble the streets.[95] In essence these repairs re-enforced the existing pre-conquest infrastructure.

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[93] *[C]ocolixtle* was the term widely applied to the epidemics of 1546 and 1576-80- now thought to have been typhus. Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 51.

[94] It is interesting that they should have thought that there were so many more Indians in this time as it falls after the last great epidemic.Ibid., 55.

[95] Mathes, "To Save a City: The Desague of Mexico-Huehuetoca, 1607.", 428.

In 1606 Martínez published his *Reportorio de los tiempos y historia natural de esta Nueva España*, dedicating it to the Marqués de Montesclaros, who he praised for his knowledge of arts and sciences. Martínez noted that "as the temperateness of the air makes the earth fertile, so too the favor of princes elevates the spirits and minds of their vassals." Offering his "little book, fruit of my weak mind," Martínez noted that the book might be pleasing to the viceroy "because it treats of some of the properties of this *clima* and [its] heavens."[96]

Martínez's Reportorio combined the popular format of the almanac with a natural history that included a history of the Mexica founded largely on Acosta. The work described the workings of the cosmos and the heavenly influences of New Spain. Mapping New Spain in both space and time, Martínez deduced that Capricorn was the sign ascendant in New Spain, based on the understanding that Aries had been ascendant over Damascus at the time of creation.[97] Martínez fixed Mexico City at 267 degrees and 12 minutes longitude and 19 degrees 15 minutes latitude, assigning the Sun and Venus as sharing dominance in the kingdom.[98] As will be detailed in the following chapter, Martínez described the environmental and heavenly influences of the kingdom and its residents, Indian, creole, and Spanish.

Martínez also described the causes of flooding in the valley. Through his frequent travels between Cuauhtitlán and Mexico City, Martínez inevitably became familiar with the lagoon and surrounding area given that he had very specific ideas concerning the cause of the flooding and the solution. Martínez believed that livestock in the encircling mountains caused the flooding. In his Reportorio, published two years later, Martínez noted that when the "Christians" first arrived in Mexico City the lake extended to regions that now had dry land. This, he claimed, led some to believe that the Lagoon was ebbing.

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[96] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 25.

[97] As Cisneros would later point out, this calculation made a number of very controversial assumptions, not the least of which, was the location of Paradise and the date of creation.

[98] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 180-181. In their astrological measurements of the eclipse of November 17, 1584 Jaime Juan, Francisco Domínguez, Cristobal Gudiel, and Doctor Fárfan found the latitude to be 19 degrees 13 minutes. AGI, *Patronato, 22, R.11, 1594, Méritos Y Servicios De Francisco Domínguez*, 14. Cisneros argued that according to his measurements from the eclipse of March 3rd 1616 Mexico City rested at 282 ½ degrees. Diego de Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México* (Mexico: Bibliófilos Mexicanos, 1962 (1618)).

Martínez argued, however, that the water in the lagoon had remained the same, but that erosion in the mountains had caused a silt accumulation in parts of the lagoon. He speculated that livestock brought to New Spain by "Christians" had caused the erosion, and lamented that in many areas in the mountains the soil had been eroded down to the *tepetate*, (bedrock).[99] According to the future Maestro del Desagüe, this process was "natural," and was therefore likely to continue in such a way as to threaten the island city.[100] Martínez noted that the rising of the lagoon bottom could be "experienced," and that just as the streets and foundations were rising, the water would always overtake the land.

The following year heavy rains destroyed the efforts of 1604 and Luis de Velasco returned for his second term as viceroy. Velasco, whose father had championed the first desagüe proposal, was keen to see it happen now. In his report to the king, Velasco noted that his predecessor Montesclaros had undertaken many projects to safeguard the city, such as raising the causeways, repairing the drywalls, and putting in sluices, but these were not enough to safeguard the city.[101] This flood, he said, was much worse than the last, with almost all the churches and convents flooded, and the streets navigable only in canoe. He reported that after hearing all the possible options, he had decided that a desagüe, or drainage tunnel, was the best option and that Enrico Martínez and Alonso Arias should lead it, as they were the most "expert" (*peritos*). He then set up a special

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[99] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 286- 7.

[100] "La laguna desta Ciudad de Mexico recibe en si y es el paradero de las vertientes de cassi setenta leguas de circuito, sus crecientes en este tiempo son mas de ordinarias de lo que antiguamente solían ser. La causa de ello es que de ¿?? años a esta parte se hara y había la tierra por todas partes, trajinarla carros, leguas y muchedumbre de Ganado, con lo qual esta soliviada de suerte que los Aguaceros, ríos y Arroyas vienen a la dicha laguna mas de la que tiempos pasados solían traer y con esto ha subido el suelo de ella y se ha ido y va soliviando de manera que algunas partes del contorno de esta ciudad __ aun en nuestros tiempos concurios ser laguna, son ahora ejidos y tierras de labor y por lo consiguiente muchas tierras de los altos que labraban han venido a quedar por la referida causa tan descarnidas que descubren el tepetate de suerte que casi no son de provecho, pues como este efecto procede de cosas inescusables y de **causa natural** se quede presumir que para adelante ha de proseguir de la misma manera que hasta aquí---

Estrechandose ques el Vaso de la laguna y subiendo el suelo de ella que suba también el agua de ella según se ve por experiencia para cuya remedio y por ___ sus crecientes se ha subido y van subiendo las calles de la ciudad ,las partes baxas de las cassas y los suelos de los templos pero siempre los alcanza la laguna que también va subiendo y es de manera que siendo el año algo lluvioso se vera avergados de donde se colige que no cesando la cuasa del daño y prosiguiendo con el referido remedio que por discurso de tiempo se vendran a perder las dichas pares baxas de las casas."AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México,* 3.

[101] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 58.

desagüe panel, which met in his chambers every Wednesday at three in the afternoon to discuss the progress of the project. This committee included Pedro de Otalora, Diego Nuñez Morquecho, Doctor Juan Quesada de Figueroa, the *Oidores* of the *Real Audiencia* and the Royal Treasurer, Arias, Martínez, and himself.

The papers, or *Relacion Universal,* compiled and printed by Fernando de Cepeda and Fernando Alfonso Carrillo in 1637, concerning the drainage projects, illustrate the importance of visual confirmation in this process. The cabinet not only examined and discussed paper representations, but walked the proposed plans to make a "*vista de ojos,*" a visual examination, of the routes.[102] The first project investigated was proposed by Luis de Fuenmayor and Martin Núñez and cut from the shores of the lagoon of Chalco to the pueblo of Tepopula. The committee sent Juan de la Isla to examine it. When notice was given that a waterhole corresponding to the Laguna of Zampango had been found, the viceroy "tested" it by sending eighty Indians to look for the mouth of the sump for eight days. They found nothing but a stone idol.[103] The viceroy then took a large convoy of specialists and other persons including Martínez, whom he listed as "Cosmographer of his Majesty," Arias, Andrés de Concha,[104] Juan de Cívicos, and "other maestros and mathematicians," to see other proposals between Zumpango and Huehuetoca.[105] The party remained or visited for several days looking at the various propositions. They found that the proposal of Damian de Avila would be 19,630 *varas* long and 70 to 80 deep, while that of Martínez was 14,850 *varas* long and only 37 *varas* deep.[106]

In the end, Luis de Velasco asked the opinion of Diego de Landeras y Velasco, the *Visitador*, who concurred that the desagüe be built in Huehuetoca, because this route did not need to be very deep to drain the water. This settled it, and Velasco began the

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[102] Ibid., 62.
[103] Ibid., 65.
[104] Andres de Concha was one of the most important artists in Mexico City at that time. A native of Seville he worked as a solo artist as well as with Simon Pyrens on many of the most important alters of New Spain. By the time of the desagüe Concha was employed in architectural works, and was the "principle master of stonework" for the Cathedral in Mexico City. Donna Ruiz Gomar Rogelio Bargellini Clara Corp Author Frederick Pierce, Pre-Columbian Jan Mayer Center for, and Art Spanish Colonial, *Painting a New World : Mexican Art and Life, 1521-1821* (Denver : Frederick and Jan Mayer Center for Pre-Columbian and Spanish Colonial Art, Denver Art Museum, 2004), 57.
[105] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 62.
[106] Ibid., 65.

process by putting out a call to all the "blacks, mulattos, mestizos and any other type of person" who wanted to rent out their labor for the desagüe to present themselves within eight days to the Corregidor of the city. Indians who came from far away should bring with them poles or materials for shelters and some sort of coat, the cost of which would be recompensed. He also called for the donation of slaves for the project, indicating that they would be fed and given "satisfaction of some sort."[107] Finally he opened the floor for new ideas concerning how best to dig, move stones, and remove dirt. He specified that those who contributed would be recompensed according to the usefulness of their idea.

When several parties disagreed over the exact route, a party of men, including Father Juan Sanchez from the Company of Jesus, Enrico "Martin," Juan de Cibicos, and other persons went to "see" the proposed desagües, weigh and measure them, and sound out the water. After these precautionary measures, they concluded that the best option was to build the desagüe through Nochistongo, and they initiated the project with a small ceremony that took place in a shack built on-site for the purpose. Luis de Velasco took up a spade and gave a few symbolic shovelfuls to "animate the Indians to work."[108]

This process highlights the culture of science in the colony and the importance placed on visual confirmation as a way of knowing. Just as Monterrey had required visual representations of the congregations, Velasco wanted to see, with his own eyes, the proposed plans. Unfortunately most of the visual documents related to this process have been lost, but the map made by Martínez in 1608 depicts the lagoons and the project as Martínez imagined it.[109] Later Martínez would stress the importance of the visual in a plea to the king for the "perfection" of his project. Martínez noted that the success of his desagüe was visible to the eye, and he provided a list of persons who had visited the work and given testimony to the fact.[110] Martínez´s inclusion of these witnesses as a proof of its functionality is evidence of his belief in experience as a valid way of knowing, but it is

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[107] Ibid., 68.

[108] Ibid., 69.

[109] Both this map and Martínez's map of California served as the foundation for subsequent maps. His map of California provided the basis for those of Miguel Costansó in 1770, and Carlos Sigüenza y Góngora, who based a map on Martínez's desagüe map that later was engraved by Antonio Moreno and published in 1748. Mathes, "Enrico Martínez of New Spain.", 66.

[110] AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México,* 7r.

also part of a procedural legacy of the Spanish bureaucracy, where witnesses were required in any court preceding. The business of science in New Spain was informed by this procedural requirement, which allowed oidores, the Visitador, and Spanish residents to participate, and share the blame in the decision making process.

Once the bidding process ended, the *Oidores* and *Alcaldes de Crimen* along with some *Regidores* and *Alarifes* set about raising the money to pay for the project. First they estimated the private property of the city at 20,267,555 pesos de *oro comun*, and from this determined the tax at 304,013 pesos. According to Cepeda and Carillo, the collection of this tax was done "with energy and ease" from all estates with the help of the *Cabildo Eclesiastico* and the Religious, who gave out flyers.[111] Luis de Velasco named Luis Moreno de Monroy paymaster general and Juan Angel accountant and secretary. They were given orders to pay the Indians 5 *reales* for 7 days plus something for the trips to and from their pueblos. The Indians were also supposed to receive one *almud* of corn every week and a pound of meat every day, a *fanega* of *chile raida* for every hundred persons per week, six loaves of salt for fifty people every 7 days, and 40 pieces of firewood for every 50 people every day. According to instructions Indians should reserve one person for every fifty to grind the corn, cook the food, etc. In addition these officials established a hospital in Huehuetoca to care for sick Indians. Carpenters, bricklayers, and supervisors were paid "according to their office."[112]

In the end the project failed to safeguard the city, and Martínez and his desagüe went down in infamy. However, for a brief period Martínez's tunnel represented the pride of Mexico City and Spanish control over the new land. After the completion of the initial project, Martínez was given a gold watch in recognition of his efforts and for a while everyone was happy. Work on the project halted for thirteen months, but Martínez convinced Viceroy Velasco that parts of the tunnel needed to be fortified with mortar. Velasco assigned 700 Indians to Martínez's charge, but with Velasco's departure in 1611 and the arrival of the Marqués de Guadalcázar, the number of Indians was greatly

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[111] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 71.

[112] Ibid., xiii, xiv.

diminished.[113] This same year Alonso Arias, the Royal Gunsmith and a fellow engineer, wrote a report to the king in response to a cédula, stating that the desagüe was useless because it was not deep enough and was not worth the cost of maintaining.[114] Martínez refuted this charge but without the support of Velasco his position was precarious. Deciding to take matters into his own hands, the king charged Don Iñigo de Cárdenas, his ambassador in Paris, to look for an engineer there.[115] This suggests either a lack of native talent or a perception of foreign expertise. This must have been particularly galling to local pretenders such as Fray Andrés de San Miguel, a Mercedian architect, who wanted to replace Martínez. Cárdenas sent back a recommendation for Adrian Boot, a Flemish engineer, along with a map of the city and the desagüe that Boot had fashioned using the map of Mexico City done by Cortés. [116]

Boot arrived in the city in 1614, and under orders from the Marqués de Guadalcázar began to survey Martínez's work.[117] After examining the state of the desagüe, he argued that it was worthless and that the only reparation that would be useful would be to open the part of the desagüe that was currently a tunnel to deepen it. Instead, he proposed a "protective circle" of dikes and canals, sluices, and windmills around the city. To facilitate the canoe traffic that was the lifeblood of the city, Boot imagined cranes to lift the canoes over the dikes and recommended reopening the canals, which the Spanish had paved for horse traffic in the city. Martínez replied that the desagüe was sound but it needed to be fortified. He also proposed a new tunnel to the River Tula to drain the lagoon. For the next thirteen years Martínez and Boot disagreed, Martínez consistently prevailed, and the city continued work on the desagüe.

Historians diverge on the reasons why Boot's plans were not adopted but stress the "foreignness" of his vision. Colin Chant argues that Boot has been unnecessarily ridiculed by historians, and that his project actually represented the most advanced

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[113]AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México,* 4

[114] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 94- 103.

[115] "Pareciéndome que éste se puede haller en Francia, en 29 de mayo el año pasado, escribí a Don Iñigo de Cárdenas mi embajador en aquel reyno." Ibid., 115.

[116] AGI, *Mp-Mexico, 55, 29-07-1612, México, Desague La Laguna* (1612).

[117] AGI, *Mexico, 2771, 1553-1797, Expedientes Sobre El Desague De La Laguna De Huehuetoca* (1614).

methods used in the Netherlands.[118] Chant does admit that Boot's plan suffered from two miscalculations. First, Boot failed to indicate what would happen to the water kept out by the protective circle. Second, he was reluctant to consider channeling this water out of the valley. Chant blames this reluctance on his Dutch perspective; in Holland there was no way to get rid of the water, and Boot did not realize that Mexico's 7,800 foot altitude allowed for this possibility.[119] Spanish historian José Sala Catalá has argued that Boot´s project was not adopted because his imagination of the city, as a watery metropolis with windmills and canals, went against Spanish conceptions of what a city should be.[120] Sala Catalá contends that Martínez's vision of a dry metropolis recommended him over Boot, allowing Martínez to maintain his position as the Maestro del Desagüe.

Although both men were considered "foreigners," Martínez had much deeper connections in Mexico City than the Flemish Boot. He was still associated with the inquisition, and in 1619 the Holy Office used Martínez's services once again to try Enrique Haz, a German living in Veracruz. During this trial Martínez revealed his personal history to explain and ascertain his authority concerning the form of the Protestant common prayer. Martínez claimed that the confession made in German by Haz was the common confession used by "the heretics of the City of Hamburg," his natal town.[121] At the tender age of eight, Martínez moved to Seville, where he apparently became a catholic, returning to Hamburg at nineteen, when "out of curiosity" he attended the protestant services. Claiming never to have confessed himself, he said that he had been required to "learn the confession in the form declared [because] it was taught by the schoolmasters to the young men."[122] Martínez not only translated Has' confession, but interpreted it for Inquisitors who had limited knowledge of Protestant practices, confirming their suspicions about Has and affirming his own Catholicism. He also advertised his German, rather than Dutch, roots at a time when the loss of the Low Countries still resonated in Spanish minds.

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[118] Chant, *Pre-Industrial Cities Reader*, 169.
[119] Ibid., 170.
[120] Sala Catalá, *Ciencia Y Técnica En La Metropolización De América*, 146.
[121] "[L]a confession y comunion que ussan Los erages de la Ciudad de Amburg en general"AGN, *Inquisicion, Vol. 306, Exp. 9, F. 142 (Martínez Como Interprete)* (1619).
[122] Martínez nunca se confesso ni vio como lo hazian los demás, Tendio que sepa sia la dicha confession en la forma declarada, y la ensoñan los maestros de escuela a los muchachos.."Ibid.

According to Martínez, however, Boot's plans were not rejected for being too Dutch but for being too simple and too similar to the pre-Hispanic works. In his treatise on the desagüe Martínez recounted the arrival of Boot in 1614, his plans for dikes and windmills, and the long duration of his stay. He grumbled that Boot continued in the colony and found "the favor of the Marqués de Galves (1621-1624)" who took him for an "able engineer." Martínez argued that Boot was nothing of the sort. He claimed that Boot had never been an engineer in any part of the world, "in times of peace or war." He accused him of ignoring the arts of arithmetic, geometry, architecture, and the teachings of "Porideribus," and criticized the strength of the fort Boot was commissioned to construct in Acapulco.[123] Finally, he argued that the remedies proposed by Boot, such as cleaning the waterways and fixing the causeways, "are the simplest types of works *that the Indians could do alone*"[124] The king had sent someone who supposedly represented the best of European engineering, but, according to Martínez, Boot offered little more than the work originally done by the Indians.[125]

Martínez not only promised superior engineering but a permanent solution. He argued that the city could be "forever safe" from flooding, if only the work already done on the *desagüe* would be "perfected" by building a tunnel that would drain lake Zumpango directly. Martínez estimated that the work would take two years and cost around 180,000 pesos.[126] His detractors argued that this figure was too low, this venture

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[123] Boot also seems to have worked on an arch in the calzada of Chapultepec in 1623, another construction at the port of Nueva Veracruz in 1635 and other government sponsored projects. There is no trial against Boot, only an order to put him in prison. AGN, *Inquisicion, Vol. 489, Exp. 6, F. 75 Y 76* (1637). AGN, *Desagüe, Vol. 3, Exp. 4, F. 18* (1623), AGN, *Jesuitas, Vol. I-14, Exp. 25, F. 208-209* (1635).

[124] Emphasis mine. "[P]arece no ser ingeniero ni haberlo sido en ninguna parte del mundo en Paz, ni en guerra porque ignora la Aritmética, Geometría, Arquitectura, la ciencia de Porideribus, la natural y todas las demás facultades que a un Ingeniero forzosamente han de acompañar y assi con razón se podrá dudar si el dicho es la persona que el Reyno nuestro ha enviado a esta tierra, pues las ocupaciones que en ella ha tenido son de muy poco y de casi ningún ingenio, porque limpiar Acequias, desarenar ríos, echar tierra sobre las calzadas son simplísimas obras que los indios a solas las solían hacer." AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México,* 5.

[125] The *Maestros de Architectura* agreed; Boot's plan was not worth the cost. Nevertheless Boot remained in the colony working on other projects until 1637, when he was put in prison by the Holy Office. Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 133.

[126] AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México,* 6.

was impractical due to labor shortages, and the canal needed to be deeper.[127] City Council members debated the merits of Martínez's plan for years, but in the meantime reparations on the original construction continued. Finally in 1623 the Marqués de Gelves (1621-1624) suspended all work on the desagüe.

Without maintenance the desagüe deteriorated, and, when floodwaters threatened in 1629, Martínez judged the work too weak to withstand the pressure of the water and sought to close the mouth of the tunnel to protect it. Officials blamed the subsequent flooding of the city on this action and threw Martínez in prison. But a week later, apparently for lack of anyone else, the Viceroy, Don Rodrigo Pacheco y Osorio, Marqués de Cerralvo (1624-1635) released Martínez and begged him to return to the project.[128]

The flooding of 1629 continued in the subsequent years and city officials struggled to find an adequate course of action. Debates between government officials were fierce and often personal. Archbishop Manso accused the Viceroy, Marqués de Cerralvo, of diverting funds and appointing a committee of personal favorites.[129] The Marqués for his part was reported as saying that "it didn't take much water to drown a creole anyway," and that "if the water had been *atole*, the creoles would have drunk themselves dry fast enough."[130] These disputes were eventually settled but city officials waffled between moving the city, as the king recommended, and "perfecting" the desagüe with Martínez's proposed *desagüe universal*.[131] In essence, Martínez's plan for the "perfection" of the desagüe was adopted merely because it provided an alternative to moving the city. *Regidores*, many of who were descendents of the conquistadors and had entailed property in the city, along with cabildo members, who represented city residents, did not want to move the city and argued for Martínez's plan. But this proposition was expensive and labor intensive, and in the end the city settled for making more reparations to the existing

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[127] Colin Chant notes that San Miguel's open trench would have suffered from the same problem as the tunnel since WHO??? did not realize that it needed sloping sides - San Miguel's trench had a slope of 83 degrees, while the 18th century trench, which was still too steep had a slope of 48 degrees. Chant, *Pre-Industrial Cities Reader*, 170.

[128] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 187.

[129] Hoberman, "Bureaucracy and Disaster: Mexico City and the Flood of 1629."

[130] Ibid., 220.

[131] Ibid., 222-227.

desagüe.[132] The desagüe universal would not be completed until 1789, by which time the Indian population in New Spain had regained some of its former numbers.[133]

Martínez maintained his position as Maestro del Desagüe for the next four years despite bitter criticism. His opponents accused him of ineptitude, noting that on two separate occasions Martínez had built tunnels that were not deep enough to drain off the water of the lagoon.[134] One of his detractors, the Oidor Villabona, said that in his old age Martínez took to blaming the "poor, fragile and shifting earth" for the failure of the desagüe. He described Martínez as a fool, who spent his time "adding impossible new [endings] to past occurrences…. with an affected illness… surrounded by books of mathematics, Globes, Astrolabes and *ballesillas*…trying to build in the sand, paint in the air and grab hold of the wind with his hands."[135] Fray Andres de San Miguel was even harsher, comparing Martínez to a lash "with which God justly castigates us for our sins."[136] San Miguel said that only God could have blinded the viceroys for nearly 25 years, so that they believed Martínez, even though they saw clearly for themselves that he was wrong. Going back to Martínez's foreign origins again and again, San Miguel wondered "how such an important work had been given to a foreigner and printer?"[137] The answer, according to Fray San Miguel, was Martínez's eloquence and foreignness; Martínez was "well spoken" and thus "well thought of by everyone."[138] In the picture painted by the venerable friar, Martínez's success in life rested entirely on his personal authority. San Miguel lamented that even after Martínez had made an error that only "the most barbarous man in the world" could make, he was able to persuade the authorities to build another tunnel, "against the opinion of everyone," just for saying so.[139]

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[132] Ibid., 227.

[133] Gibson estimates that the low point population for the valley was around 70,000 in 1640, but that by 1800 the population had grown to 275,000. Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519-1810*, 141.

[134] Andrés de San Miguel, *Obras De Fray Andrés De San Miguel*, 234-236.

[135] Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 267.

[136] Andrés de San Miguel, *Obras De Fray Andrés De San Miguel*, 234.

[137] Ibid. , 239.

[138] "Es hombre bien hablado y entonces bien visto de todos." Ibid., 234.

[139] "pues acaba de hacer un socavón y en él un tan grande yerro como lo pudiera hacer el hombre más bárbaro del mundo; se pone de nuevo a persuadir que se haga otro arrimado al hecho y se le concede, contra el sentimiento de todos, por sólo decirlo él." Ibid., 235.

The debates over solutions to flooding during the 1620s highlight the issue of Indian labor and the political factions in the kingdom. When they compiled the papers on the project in 1637, Carillo and Cepeda summed up these issues. Lamenting that the work of the past 28 years had been a waste, Carillo and Cepeda argued that the desagüe of Huehuetoca "consumed" and continued to consume estates and to thin the forces of the naturales. These authors noted that in 1636 Mexico City was more vulnerable then ever. First, the walls and dams of the desagüe were in terrible condition; second, the estates taxed for these works had been squandered and the city council remained with more than 250,000 pesos of debt; and finally, the Indians were so *consumed*.[140] These papers illustrate the equation between wealth and population in the kingdom. For instance, when discussing the elder Velasco´s repair of the *Albarrada* in 1553**,** Cepeda and Carrillo noted that the repairs had only taken a few days because of the "multitude of people [Indians] that there were then."[141] Ironically Velasco himself made similar claims about the lack of Indians in his own day, saying that the city never should have been built there in the first place, but that there was "no way to move the city *now*, for lack of people [Indians] and money to do it."[142] These statements not only reveal the subjectivity of the claims, but the pervading sense of loss in the colony from an early date. Martínez later argued that the Indians who worked on the desagüe were treated well, evidenced in their disposal to continue working on it.[143] Nevertheless, when he called for the "perfection" of the project in 1623, he said that it needed to happen soon, "because in the end one sees that the Indians, the wealth of this kingdom, the experience gained in this work, and all the other things that would be favorable for finishing [this project] are weakening with

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[140] "[Y] estar tan consumidos los indios." Cepeda, *Relación Universal Legítima, Y Verdadera Del Sitio En Que Esta Fundada La Muy Noble, Insigne, Y Muy Leal Ciudad De México, Cabeca De Las Provincias De Toda La Nueva España*, 35.

[141] Ibid., 42.

[142] Ibid., 46.

[143] "Contando todo el tiempo que interpoladamente se ha trabajado en la dicha obra son 14 años y 11 meses en el qual tiempo murieron en ella por diversas desgracias que subcedieron 21 Indios y 2 Españoles, según consta por los libros de los contadores que han sido de la dicha obra que por mandado de los Señores Virreyes tomaban razon de ello, la paga y tratamiento que a los Indios se hazia fue siempre bueno, lo qual se verifica en la mucha voluntad que tienen de volverse a ocupar en la labor de ella" AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México.* unfoliated.

time and every day are diminishing."[144] It is unclear if Martínez was listing the wealth of the kingdom along with the Indians and the experience gained in building it, or whether this is a prepositional phrase directly describing the Indians, but the message is the same: the Indian population was rapidly decreasing and with them the ability to construct such a project. Martínez, like many of his contemporaries, saw the Indians as a natural resource that needed to be exploited before it was too late.

The complications surrounding the "perfection" and continuation of the desagüe also illustrate the significance of the realization of the project in 1607. As we have seen, the project had been attempted many times before, when Indian populations were healthier, and yet it had always been rejected. So what made the desagüe possible in 1607, during a period that Whitmore has speculated to be the low point of Indian populations? It is difficult to know for sure, but there are a number of interrelated issues that this chapter has attempted to illustrate. First and most importantly, the issue of the repartimiento had been settled with the cédula of 1604, which limited the use of the labor drafts to public works projects, thereby quieting complaints from private persons concerning the siphoning of labor.[145] Second, the congregation process being complete, the Indians were now consolidated into larger municipalities, which might have made the recruitment of labor seem more feasible. Third, it seems possible that the mostly creole cabildo, anxious to save the city from relocation, was now desperate enough to try the desagüe, having already realized all of the minor improvements possible in 1604. Likewise Velasco's role in the project was crucial to the actualization of the project. Growing up in the colony during his father's reign as viceroy, the younger Luis had close personal and kinship ties with the ruling creole elite. This support of the creole elite is evidenced by the notices of

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[144] Ibid.

[145] In 1601 the Council of the Indies decided to make a ruling on the issue of Indian labor and the *Reales Cédulas* of the same year drastically limited the use of the *repartimiento* by private individuals, but permitted its use in works of public interest. This decision ended the public debates over the right to Indian labor and made works like the Desagüe possible. Sala Catalá argues that this decision was a cultural landmark which enabled the realization of the era's great public works projects, thus demanding and impelling scientific and technical innovation. Sala Catalá, *Ciencia Y Técnica En La Metropolización De América*, 61.

satisfaction sent in by creole cabildos upon his assumption of the post of viceroy.[146] This kind of support most likely allowed him to finance and initiate such an expensive and labor intensive project. Finally, just as Martínez argued that the "perfection" needed to be done before it was too late, it is possible that in 1607 the Spanish residents of Mexico City felt the same way.

Conclusion

The civil congregation and desagüe projects undertaken at the turn of the seventeenth century represent the confidence of Spanish rule, which tried to remake both the human and physical geography of the kingdom. Both projects involved extensive planning, specialists, and close viceregal participation. In both cases cosmographers played an important role, suggesting the legitimizing value of such specialization and the visual representations they could produce.

Both projects also brought the Indians into increased Spanish contact. The congregation reduced hundreds of thousands of Indians to Spanish style polities, while the desagüe occupied similar numbers who were forced to make the trek into the city to labor under ground in water, but were also remunerated for their labor, even if only in the form of sustenance. Although the congregation dislocated many, it also created pueblos with documented land titles that could be defended against encroachment by outsiders. While many communities, especially those around Mexico City with connections to the religious orders, contested congregation, most made the move, and when Monterrey left New Spain the Indians made a great show of sadness at his departure.[147]

As the number of Indians dwindled Spaniards remade the land and reorganized Indians' relationship to it. While many Indians had lived in "disperse" and isolated areas, they were now joined into pueblos, with central plazas and demarcated boundaries. Taken from their homes to work in the city they became part of the wage system, even if

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[146] No other viceregal appointments received this honor. Enriqueta & Justina Sarabia Viejo Vila Vilar, ed, *Cartas De Cabildos Hispanoamericanos*, II vols. (Sevilla: Escuela de Estudios Hispanoamericanos Sevilla, 1990). Item 317 Mayo 10 1590, Item 318 Agosto 30 1607.

[147] This greatly surprised Torquemada. Torquemada, *Monarquía Indiana De Los Veinte Y Un Libros Rituales Y Monarquía Indiana, Con El Origen Y Guerras De Los Indios Occidentales, De Sus Poblazones, Descubrimiento, Conquista, Conversíon Y Otras Cosas Maravillosas De La Mesma Tierra*, 374.

those wages were small and only amounted to sustenance. While Indian producers had once occupied most of the arable land in New Spain, depopulation, "reduction," and encroachment shifted the balance.

Chapter 6. A microcosm of two worlds: New Spain and New Spaniards

Bernardino de Balbuena's *Grandeza Mexicana* (1604) was one of many works published in this era that celebrated New Spain and her heavenly influences. Balbuena depicted Mexico City as a thriving center of trade, production, and science. Likewise, many of Balbuena's descriptions hint at the scientific culture of Mexico City. For example, referencing a popular alchemical symbol for regeneration, Balbuena referred to the salamander in the middle of the "burning ovens" of the city's glassworks.[1] Similarly, he described the "violence" of the alchemical process of smelting, which he imagined as an art from "the deep," refined and worked in New Spain "without second" in the world.[2] Balbuena described the gems, cloths, and other riches to be found in Mexico, attributing this variety of things to the sun's journey through the diverse signs of the zodiac, which created all things. Noting that Mexico divided the world in half (being near the equator) he declared that "as the land is inclined to one sun, it appears that [the sun] presides in all of [the land]."[3] Taking his astral reading further, he argued that Mexico City, "rich and populous," was "free of the influence of Mars," enjoying instead peace and prosperity.[4]

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[1] The salamander was believed to regenerate itself in fire and was a symbol of regeneration through destruction. Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004), 120.

[2] "El negro azufre, que en salitre bebe furor de infierno con que vuela un mundo si a su violencia resistir se atreve, aunque invención salida del profundo, aquí también se labra y se refina en fortaleza y temple sin segundo." Bernardo de Balbuena, *Grandeza Mexicana: Y Fragmentos Del Siglo De Oro Y El Bernardo*, ed. Francisco Monterde (México: Ediciones de la Universidad Nacional Autonoma, 1954), 51.

[3] "México al mundo por igual divide, y como a un solo sol la tierra se inclina y en toda ella parece que preside." Ibid., 44.

[4] "Libre del fiero Marte y sus vaivenes, en vida de regalo y paz dichosa, hecha está un cielo de mortales bienes ciudad ilustre rica y populosa." Ibid., 45.

Balbuena's text portrayed a multitude of different people "of various figures, faces and resemblances," "of diverse color and profession," and "different languages and nations." All of these people, he argued, were moved by greed, which Balbuena compared to the Sun "that warms the earth." [5] Referencing the great population of blacks in the city, Balbuena noted that if the peoples of Mexico City were presented as a game there would be "as many black [tiles] as there would be white, without [counting] the other unwashed colors."[6] In this way Mexico City might be considered a microcosm of the Atlantic World rather than a microcosm of two worlds. Nevertheless, the Spanish and the Indian dominated the history of the city, making Cervantes' reference to the microcosm just as pertinent at the turn of the century as it had been in 1550. Speaking of the conquest, Balbuena described the "brave panache" of the Spaniards that moved them to cross the ocean, bringing the "divine light" to the New World "where so many clouds had been." Comparing this process to a birth, Balbuena declared that it created a "Spanish island and *two Spains*."[7] He pardoned himself for leaving off the tales of "wild nations" and the "chimeras of origin" which depicted "an eagle and tuna," saying that although the past might give glory, Mexico City was "at the peak of its greatness" at the present. [8]

This chapter looks at the discourse on place, belonging, and Indian mortality articulated during the third generation. It focuses on a body of medical and astrological texts published in Mexico City by Juan de Cárdenas, Enrico Martínez, Juan de Barrios, and Diego Cisneros, arguing that these works reflected a larger cultural shift occurring in the colony as Spanish residents began to re-imagine their place in the colonial matrix. Like Balbuena these authors celebrated the Spanish residents of New Spain and the heavenly influences of the kingdom. As we saw in chapter three, by the end of the

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[5] Ibid. , 13, 15.

[6] Ibid., 27. By the seventeenth century blacks and mulattoes outnumbered Spaniards in the city, often threatening the peace of the kingdom. In 1608 Velasco II sent a military expedition to wipe out a group of *cimarrones* (runaways) near Vera Cruz that resulted in a truce and eventual acceptance of the *cimarrones* demands for a free town, and in 1612 officials in Mexico City discovered a slave conspiracy planned for Holy Week. Both events illustrate the importance of blacks in the colony and the tenuousness of Spanish control. Colin A. Palmer, *Slaves of the White God: Blacks in Mexico, 1570-1650* (Cambridge: Harvard University Press, 1976), 49, 127, 139.

[7] Balbuena, *Grandeza Mexicana: Y Fragmentos Del Siglo De Oro Y El Bernardo*, 22, 23.

[8] Ibid., 25, 27.

second generation Spanishness and nativeness had been linked in the body, and defined by place. Using the Indians as a reflection of environmental influence, clerics and doctors imagined a degenerative affect to the land. These authors addressed these theories, re-imagining the basis for Spanish belonging and "nativeness," while re-affirming tropes such as the lazy native or the recalcitrant Spaniard.

Unlike the works of the second generation which looked to audiences in Spain, these texts addressed local patrons and local concerns. Juan de Cárdenas's *Problemas y secretos maravillosos,* Enrico Martínez's *Reportorio y historia natural,* Juan de Barrios's *Verdadera Medicina, churigia y astrologia,* and Diego de Cisneros's *Sitio, naturaleza y propiedades* were all imagined in one way or another as "useful" to locals. Juan de Barrios's text lists cures and remedies for illnesses from *bubos* (syphilis) to broken bones, including a whole section on cosmetic problems such as dandruff, stained teeth, and weight gain, while the texts of Cárdenas, Martínez and Cisneros were all deemed useful by the viceroys to whom they were dedicated.[9] Luis de Velasco, for example, noted the "usefulness that [would] follow in the whole republic" if the work of Cárdenas were "printed and brought to light."[10] Likewise Martínez claimed that his text would be "useful and profitable to the whole kingdom, especially to farmers," and Montesclaros, having assured the correctness of Martínez's astrological opinions, granted him license to print.[11] On a slightly different note, the Conde de Guadalcázar praised Cisneros for amending some "vulgar errors" circulating in the city, referencing some of Martínez's

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[9] Juan de Barrios, *Verdadera Medicina, Cirugía Y Astrología* (Mexico: Fernando Balli, 1607). Book II, 34-39.

[10] As was custom in this period, *Problemas y Secretos* contained a dedication extolling the virtues of a desired patron. In Europe, authors frequently dedicated their works to the Crown, but they also chose local patrons, such as an Archbishop or a local lord. In New Spain the Viceroy and the Archbishop, received the majority of praise. Cárdenas dedicated his work to Luis de Velasco, the younger (1590-95, 1607-11), who was just starting his first term as Viceroy of New Spain. The dedication sang the praises of both the younger viceroy and his illustrious father, who had governed with "peace and prudence until God carried him up to heaven." Commending Velasco's education and taste, he said that he hoped to find favor with Velasco, who always favored literary causes, so that he might find the inspiration to finish other works. For his part, Velasco conceded license to Cárdenas to print the work for a span of four years, because of the "usefulness that will follow in the whole republic if the work [was] printed and brought to light." Juan de Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, Colección La Historia De La Medicina En México (Academia Nacional de Medicina, 1980 (1590)), 58.

[11] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 26.

suppositions.[12] This remark gives us an idea of the circulation of these texts, and the way they fit into local discourse and "vulgar" or "popular" beliefs.

These texts self consciously brought science to the periphery, and their authors attempted to weed out "superstitious" beliefs and practices common there. These ideas reflected the growing disdain for local knowledge, which was increasing seen as "superstitious" by Spaniards. For example, Juan de Barrios railed against the possibility that illness might be provoked through a malevolent gaze. If children fell sick, parents should treat the illness, rather than worrying about the "evil eye" of a stranger or neighbor.[13] Likewise, in *Problemas* Juan de Cárdenas wanted to correct his readers on several errors. Referring to local "curanderos" who "sucked" animals and other objects from their patient's sides, he examined the generative possibilities of the human body. He concluded that it might generate worms, and snakes, and maybe even frogs, but not other animals, such as rodents, which had lungs and needed to breathe. He also ruled out the possibility for man to know the future through natural causes, arguing that herbs such as *herba mora* or *peyote* merely increased the subject's predisposition for a union with the devil.[14] Indian "cures," practices, and prognostications were more and more suspect, and these authors established their own authority on their theoretical knowledge which allowed them to understand the secrets of nature better than the Indians.

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[12] The Marqués commended the publication of Cisneros's work in glowing terms. Extolling the usefulness and singularity of the work, the Marqués granted Cisneros exclusive rights to the book for a space of ten years. The Marqués, who was intricately involved in the still continuing desagüe project with Martínez, specifically referenced some "corrections" that Cisneros had made to the "vulgar errors" currently circulating in the city. This is an explicit reference to the disagreements between Martínez and Cisneros over the coordinates of the city, the cause of the fall of the Aztec empire and the complexion of the Indians, and can be read as a personal slight against Martínez. Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 14.

[13] "Mal de ojo" had pre-Columbian roots. see: "Equilibrio y desequilibrio del cuerpo humano. Las concepciones de los antiguos nahuas," by Alfredo López Austin, in J.L. & López Piñero Fresquet Febrer, J. M, ed, *El Mestizaje Cultural Y La Medicina Novohispana Del Siglo Xvi* (Valencia: Universitat de Valencia- C.S.I.C, 1995), 30-42.

[14]This opinion varied from Juan de Huarte, who opined that the famous Sybils of antiquity, could have known the future due to an extreme heating of the brain, which allowed them the intelligence to know more than most.

I. Two Worlds

Although Mexico City had become a pre-eminent Spanish city, the pre-conquest origins of the city were evident everywhere. As we saw in the last chapter, the same year that Balbuena published his *Grandeza Mexicana,* the viceroy Montesclaros rebuilt the retaining wall attributed to Netzahualcoyotl, which separated the brackish water of the Lagoon of Texcoco from the fresh waters surrounding the city. He also repaired three of the *calzadas* that linked the island city to the surrounding towns and improved the supply of fresh water into the city, essentially fortifying pre-conquest constructions.[15] Canoe traffic still supplied the city from neighboring Indian pueblos and the cities and markets still boasted local products such as *atole*, powders of Jalapa, and Mechoacan.

The texts of Cárdenas, Barrios and Cisneros reflect the hybridity of local culture, and the assimilation of local products into Spanish medicine, as well as the divide between local and peninsular Spaniards. All three authors were born in Spain, but they each assimilated the local differently. While both Barrios and Cárdenas used terms such as "chapetón" to describe Spaniards and recommended the use of many native cures and products, Cisneros, who had just arrived, complained about the medical culture of the city and local practices.

As university accredited doctors, these men occupied the higher echelons of a much larger population of healers including surgeons, *curanderos* (healers), pharmacists, and *hechiceros* (spell-casters).[16] Curanderos probably garnered much of the indigenous clientele and competed with doctors for Spanish patients.[17] These practitioners combined Spanish, Indigenous, and African medicinal and magical practices.[18] Surgeons occupied a district of the city where they bled people, set bones, and performed minor operations.

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[15] José I. Rubio Mañé, *El Virreinato 4 Obras Públicas Y Educación Universitaria* (México Inst. de Investigaciones Históricas u.a. Edition: 2. ed, 1983), 18.

[16] In 1640 a *Protomedico* was named to license the medical practitioners of the kingdom, *curanderos* were included as a category. *Curanderos* were frequently Indians, but many were also of Spanish and African descent. AGN, *General De Parte, Vol. 8, Exp. 32, F. 17* (1640).

[17] For example in 1600 Antonio de Cadena wrote to the local authorities asking for a license so that an "Indian healer" could enter the Monastery of the Conception to cure his sister Mother Ursula de San Miguel of a grave infirmity. AGN, *Bienes Nacionales, Vol. 78, Exp.36 (Que Entra Indio Curandero)* (1600).

[18] Gonzalo Aguirre Beltrán, *Medicina Y Magia: El Proceso De Aculturación En La Estructural Colonial*, No. 1 ed. (Mexico City: Instituto Nacional Indigenista, Colección de Atropolgía Social, 1963), 75- 96.

Controlled by a *cofradia*, surgeons also needed to be licensed by the *protomedico*, but did not need hold university degrees.[19] As we have seen in Salazar's description of the market of the city, local medicines were readily available in the *tianguis* of Mexico City, where one could purchase "iztacpatli" to purge phlegm, "tlalcacaguatl" and "izticpatli" to free one from fever, "culuzizicaztli" to relieve head catarrh, or "ololiuhqui" to cure ulcers and hidden wounds," let alone Michoacán, which Salazar declared, was called by doctors "the blessed medicine."[20]

These authors used their texts as mechanisms for establishing authority and distancing themselves from their competition. Physicians in this era had little actual advantage over other healers, who, after all, had access to the same pharmacopeia and techniques, and the decisions of both patients and doctors relied on a number of cultural assumptions and markers surrounding authority, health, and disease.[21] These texts helped these authors establish this authority. They saw their abilities to understand the qualities of herbs, foodstuffs, and the environment as the distinction that put them above their uneducated competition, who neither understood appropriate remedies, the effects of local situations, nor the true nature of local medicines. Their texts highlight the process of appropriation taking place in the New World, as local phenomena were redefined and "understood" in terms of European intellectual constructs. They also describe the business of medicine in the colony, and the habits and practices of their clients.

Born in Constantina, a small town in the hills north of Seville, Juan de Cárdenas made his way to the New World at an early age. Yet he maintained fond memories of his native home, which he described as "a copious and abundant storehouse of all the gifts of the world."[22] A place that produced wine, wheat, oil and "every type of game," Constantina would resound in Cárdenas's memory as the model against which he would

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[19] One indication of the number of barbers comes from a court case fought during the seventeenth century. Spanish barber surgeons fought a fifty year court battle to exclude a group of Philippine barber surgeons. In the end the foreign barbers were merely restricted to eight shops and ordered to pay dues to the barber surgeon *cofradia*. Cope, *The Limits of Racial Domination: Plebeian Society in Colonial Mexico City 1660-1720*, 21.

[20] Cervantes de Salazar, *Life in the Imperial and Loyal City of Mexico in New Spain, and the Royal and Pontifical University of Mexico*, 58-60.

[21] Katharine Park, "Review: [Untitled]," *Renaissance Quarterly* 47, no. 1 (1994).

[22] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 20.

later compare the Indies.[23] He claimed to have arrived in the Indies "alone and unprotected" around the age of fourteen, but his early years are unknown.[24] Once in Mexico, Cárdenas began his studies at the Real Universidad, where he passed the examination for his *bachillerato de arte* in 1581.[25] After completing this degree, young Cárdenas enrolled in the department of medicine at the same institution. He described his education at the University in both positive and negative terms. On the one hand, he lamented that unlike students in Spain, who benefited from conferences, debates, and diverse instructors, the program in New Spain was limited to a single faculty member, one Dr Juan de la Fuente, the *Catedrático de Prima*. On the other hand, he praised Dr. de la Fuente, whom he recommended as a "father" to his students.[26]

After working many years in a hospital in Nueva Galicia, Cárdenas returned to Mexico City where he was awarded the title of *Licenciado de Medicina* in 1589 and *doctorado,* on the publication of his book in 1590.[27] In 1595 the young doctor applied for the position of *Catedrático de Prima,* after the death of his professor Dr. de la Fuente, but was overlooked in favor of one of his classmates, Juan de Contreras, who occupied the position for the next twenty years. In 1598 the University finally approved the creation of a second position in the Faculty of Medicine, that of *Visperas*. Once again, Cárdenas applied and was passed over for another fellow classmate, Juan de Plascencia. After this disappointment it seems that Cárdenas may have returned to Nueva Galicia under the

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[23] Ibid., 100, 106.

[24] Cárdenas informs us that he published his work at the tender age of 28, and that at this time he had spent half his life in Castile and half in the Indies. Ibid., 150. It is possible that he first went to Perú in the company of another Juan de Cárdenas, employed as a miner in Potosí in 1585. Emilio Uranga has argued that this time at Potosí constituted the formative experience that would later manifest in Cárdenas's chapter on mining. This possibility is somewhat further advanced by the fact that Cárdenas, unlike Martínez and Cisneros, endeavored to discuss the whole of the Indies, rather than narrow his description to New Spain, and does include mention of Perú on many occasions. On the other hand, he never specifically references his personal experiences in Perú at any point in his work, as he does repeatedly concerning locations in New Spain. Ignacio Chávez notes that the education at the University continued to be very conservative into the 19th century and that the worst students were shunted off into careers in medicine. Ignacio Chávez, *México En La Cultura Médica*, ed. Fondo de Cultura Economica (Biblioteca de la Salud, 1987), 59.

[25] Xavier Lozoya, "Juan De Cárdenas: Médico Y Científico Del Siglo Xvi Novohispano," in *Problemas Y Secretos Maravillosos De Las Indias*, *La Historia De La Medicina En México* (México: CIA Litográfica Rendon, 1980), 24.

[26] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 150.

[27] The hospital was subject to the *cabildo* and the Bishop, and, according to Xavier Lozoya, Cárdenas's main biographer, had "a doctor, a pharmacist, a barber and chaplain […] twenty beds with linens, and five black slaves (of both genders) who cured and served the sick." Lozoya, "Juan De Cárdenas: Médico Y Científico Del Siglo Xvi Novohispano.", 25.

patronage of the old Rector of the University Santiago de Vera Cruz, whom Cárdenas was treating in Nueva Galicia upon his death in 1606.[28] In 1607 Cárdenas returned to Mexico City and his hopes for a position at the Real Universidad were finally realized.[29] Unfortunately he died two years later at the age of forty six.

Not surprisingly Cárdenas's work shows a great affinity with local culture. Throughout *Problemas y secretos maravillosos* (1590), he uses Nahua names and local slang as though these were readily accessible to his readers. As the title of his text alludes, he aimed to elucidate the "problems and marvelous secrets" of the Indies, such as the reason that Spanish women have more painful menstruation in the Indies or why blindness was so common among the Indians, problems that must have been part of the local discourse.[30]

Cárdenas distinguished himself from other healers by demonstrating his superior understanding of herbs and their effects, noting that native practice was "superstitious." Noting that many "barbarous and stupid" people believed that herbs were capable of extraordinary results, Cárdenas attempted to dispel untoward ideas.[31] He declared that herbs, animals, and rocks had "effects, properties, and virtues" that could not be denied. These qualities included: heating, cooling, drying, humidifying, purging, accelerating, and other similar effects. However, he cautioned, they could not cause "extraordinary or marvelous" occurrences. He explained that herbs such as peyote and *herba mora*, which many used to foretell the future, leaving their bodies to find out things that had not yet happened, did nothing more than provoke a sort of sleep state whereby the person

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[28] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 28.

[29] Lozoya, "Juan De Cárdenas: Médico Y Científico Del Siglo Xvi Novohispano.", 29.

[30] He concluded that Spanish women had more painful menstruation because of the humidity of the Indies, and also because of habits such as taking chocolate, and eating dirt. He believed that the Indians went blind because of wine and smoke, noting that alcohol clouded the vision, and that the Indians houses had no chimneys. Finally he noted that smallpox left many blind. Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 290, 297. Interestingly, Thomas Gage an English traveler writing in 1641 mentioned the habit local women had of eating dirt, which he associated with eating cocao. Gage says he has seen creole women using the butter of cocao on their faces, and that creole and Indian women also eat the fruit of the cocao- "which causes stoppings- and makes them look broken, pale and earthy color, as do those that eat earthenware, as pots or pieces of lime walls (which is much used among the Spanish women thinking that a pale and earthy color, though with obstructions and stoppings, well becomes them.)"Thomas Gage, *Thomas Gage's Travels in the New World*, ed. J. Eric S. Thompson (Norman: University of Oklahoma Press, 1958), 152, 153.

[31] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 313.

became susceptible to dreams or the influence of the devil, who then might reveal such secrets, but it was not the property of the plants themselves to predict the future.[32]

Cardenas's discussion of the practice of curanderos called into question the basis of their practice. Describing certain curanderos in Nueva Galicia who would "suck" crabs, worms, or other items such as belts and pieces of cloth from the bodies of their patients, Cárdenas examined the possibility that the body could create such things. He did not doubt this possibility, noting that "if Avicenna says that bad vapors […] can engender animals, how much more disposition might our bodies have?"[33] However, he cautioned his readers that these animals did not grow because of the herbs given by these healers, noting that these healers merely held the objects in their mouth.[34]

Likewise Cárdenas claimed that his training allowed him special insight into local products such as tobacco, chocolate, and *atole*. Cárdenas incorporated these products into the European understanding by applying humoral medicine to describe their properties and effects. In this way he participated in the process of appropriation that he describes taking place in New Spain by legitimizing the use of these products.

Scholarship on European consumption of New World goods has stressed familiarity and "emulation" as the primary factors spurring European adoption of new world products. Historians such as Alan Davidson have argued that products which fit into the "European scheme of things" were more readily adopted. So, for instance, New World beans were readily adopted but the pineapple was not.[35] Other historians, such as Sydney Mintz, stress socio-cultural factors, such as status, in the adoption of luxury items like sugar. Marcy Norton argues, however, that the "trickle down" model of consumption does not answer how these items were first brought into usage in Europe. She contends that this process did not come from the top down. "Instead, it flowed in the opposite

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[32] Ibid., 313.

[33] This acceptance of Avicenna is typical of all of these texts, which might occasionally take issue with authority in certain cases, but generally do not doubt it. Ibid., 312.

[34] Ibid., 316.

[35] Never mind that pineapples could not readily grow in Europe. Alan Davidson, "Europeans' Wary Encounter with Tomatoes, Potatoes, and Other New World Foods," in *Chiles to Chocolate: Food the Americas Gave the World*, ed. Nelson & Linda S. Cordell Foster (The University of Arizona Press, 1992), 4.

direction: from the colonized to the colonizer, from the "barbarian" to the "civilized," from the degenerate "creole" to the metropolitan Spaniard, from gentry to royalty."[36]

Cárdenas's description of usage in the colony backs up Norton's argument for a bottom-up acculturation, while his incredulity at what he calls the "strangest method of administration known to medicine" demonstrates that familiarity was not necessarily a component for appropriation. Calling tobacco the "sainted herb," he marveled at the way it was used. This consisted in grinding the leaves of the plant, rolling it in another leaf, lighting one end, and sucking the smoke from the other! He remarked that this practice had started with the Indians, spreading to blacks, Spaniards, and "even Spanish women."[37] Hot to the third degree and dry, Cárdenas believed that tobacco was helpful in alleviating winds, ancient pains, hunger, exhaustion, dropsy, and all other illness associated with privation. For this reason tobacco was a boon to soldiers, country folk who slept on the floor, and Indian and black miners subject to abject conditions. [38]

Chocolate was another New World substance widely adopted into Spanish practice, and Cárdenas's account demonstrates the way that chocolate was absorbed into medical theory and daily use. He warned that if taken alone, chocolate had the property of restraining the womb, stopping the flow of menstruation, closing the urinary tract, obstructing the liver and spleen, depriving the face of its natural color, and engendering perpetual anxiety, melancholy, and palpitations of the heart. But mixed with just the smallest amount of *atole,* a beverage made from ground corn, it fattened and sustained man, giving him a "healthy and laudable sustenance."[39] According to Cárdenas, everyone who inhabited the new world believed chocolate to be a healthy and good substance except for some Spanish doctors "who reprove it, without knowing or scrutinizing it." He noted that chocolate is often mixed with other beneficial spices such as vanilla (*tlixóchil*), *mecasúchil*, or *güeynacaztle*, a spice which is smooth and good for the complexion, digestion, and the evacuation of bad humors from the body.[40] Finally, Cárdenas

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[36] Marcy Norton, "Tasting Empire: Chocolate and the European Internalization of Mesoamerican Aesthetics," *The American Historical Review* (2006), 16.
[37] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 237.
[38] Ibid., 237.
[39] Ibid., 176.
[40] Ibid., 180.

examined a belief held commonly in the Indies that taking chocolate, *pozole*, *pinole*, *chichi,* or other local foods did not break a fast. Although these products had made it into the Spanish diet, it seems they had yet to make it into prohibitions.[41] After reviewing the purpose of a fast, Cárdenas declared that according to both good theology and good medicine the consumption of these new provisions definitely broke a fast.[42]

Atole was another widely adopted local foodstuff. Cárdenas's depiction of its properties, types, and benefits demonstrates the way that he squared theory with experience. He noted that according to the theory of humoral medicine it did not make sense that atole should be good for all complexions or all illnesses. However, "*experience* shows," he contended, that *atole* was beneficial to all, healthy or sick, young or old, male or female. He attributed this universality to the fact that corn was the most "perfectly temperate" food ever created by God.[43] This base substance could then be altered with the addition of other ingredients, such as *chia, chiles, epazote* or *ezquite* to benefit different ailments. [44] According to Cárdenas the resulting beverages, *chianzozole, chilatole*, *necoatole*, and *yoloatole*, remedied a diverse range of symptoms from thirst to colds, to "passion" or "sorrows." [45]

Though Cárdenas did warn his readers about the negative effects of both chocolate and tobacco, his text basically reaffirms the adoption of these local products, lauding their properties and benefits. By bringing chocolate, tobacco, and atole into the fold of European understanding, Cárdenas both legitimized and clarified their use. As we saw with chocolate and will see more clearly in Cisneros's text, these products were controversial, and all Spanish doctors did not agree on their utility. Cárdenas's approbation reflected his many years in the colony, his education, and his affinity with local culture.

In his *Verdadera medicina, cirugía y astrología* (1607) Juan de Barrios demonstrated a similar affinity and knowledge about local products. Barrios, born outside of Madrid in

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[41] Thomas Gage an English friar who travelled in New Spain in the 17th century described taking chocolate during fasts- which also including drinking water and eating bread.Gage, *Thomas Gage's Travels in the New World*, 134.

[42] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 193.

[43] Ibid., 215.

[44] Ibid., 216.

[45] Ibid., 219.

1562, had studied under Juan Calvo and Pedro Garcia Carrero, two of the best known physicians in Spain at both Salamanca and Alcalá. [46] He moved to the colony in 1589 and had connections with Juan de la Fuente at the Royal and Pontifical University. [47] Unlike the texts of Cárdenas, Cisneros, and Martínez, Barrios's work focused on the prescription of remedies for different ailments. Starting, as did many Spanish medical texts, with the head it moved down the body. It included chapters such as "when a member stands up, but fails to go down" and "dandruff, how to cure it."[48] It also included a section of Hernandez's botanical compilations describing many of the uses of local medicines, which had been translated by Nardo Antonio Recci in 1580.

As we saw in chapter three, a vigorous trade in local medicines had grown up in the colony alongside the production of different remedies. Barrios's recommendations include many of these, demonstrating the prevalent use of many of native medicine in New Spain. For example Barrios recommended "mataliste,[49] (two dramas) and the purge of Jalapa, cañafistola with marmalade of rose juice, bitter serum, rhubarb, mana, marmalade of plum, pills of rhubarb, [and] syrup of nine infusions," to purge the choleric humor from the body. To purge the phlegmatic humor he recommended *atole*, Mechoacan, syrup of Jalapa, and the purge of Guanajuato, among other things.[50] These remedies indicate the widespread availability and production of these remedies, which had developed a sort of brand name quality.

He recommended different purges for different peoples, such that for "robust" people "triaca" might be beneficial, while for people of a cold complexion powders of laurel, and for women and children "anis of Mexico" or the "flower of nopal." For Indians, Barrios recommended *agua de capulis* which could be made almost all year round

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[46] As we saw in chapter 4, Juan Calvo argued for the American origin of Bubos.

[47] López Piñero, *La Influencia De Francisco Hernández, 1515-1587, En La Constitución De La Botánica Y La Materia Médica Modernas*, 153.

[48] Barrios, *Verdadera Medicina, Cirugía Y Astrología*, Book II, 48, Book III, 34.

[49] *Commelina erecta*, from *matalitztic* (*matalin*, dark green, *itztic*, cold, Náhuatl). "Additions, Errata, Emendata, Excuses: Corrections to Florida Ethnobotany (Crc Press, 2004)," (2008).

[50] Barrios, *Verdadera Medicina, Cirugía Y Astrología*, Book I, 36, 36v.

because the fruit of the *capuli* could be stored. He claimed that with just this simple remedy the Indians received great benefit.[51]

While Cárdenas mostly decried the abilities of his untrained competition, Barrios frequently complained about other physicians in the city. In particular he warned his readers about one Dr. Sevillano. Barrios cautioned that Seviallano's medicines were no good, and did not work to "attract" or cure bones, as Sevillano claimed.[52] Barrios also claimed that many doctors were too cautious with purging in New Spain, not understanding the relative gentleness of the Mexican purges, which he argued could even be used on pregnant women. He claimed that the death of a "gachupín" at Juan de Sagra's wife's house resulted when a doctor refused to purge him during a fever, against his own recommendations.[53] On the other hand he also noted that in the sarampion epidemic of 1596 in Mexico City, he did not purge any of his patients, and none of them died.[54]

Barrios had many suggestions for improving Mexico City, and many of these were related to medicine. First, he maintained that the citizens should confess, fast, and give alms to placate God. Then they should clean the trash heaps and latrines, and bury the dead as deeply as possible, throwing lime over graves and privies. Barrios also recommended the prohibition of whorehouses, comedies, the "dances of blacks," and the sale of bad foods and fruits. He suggested that good Christian doctors, surgeons, and barbers should be employed in guarding the ports of cities and hospitals, burning the clothing of the sick and stopping the introduction of foods which might easily corrupt. Barrios lamented the shortage of places to do washing in Mexico City, and thought that there ought to be one place for healthy people and one place for sick people. He also thought that barbers should not throw the blood of their patients out the front door, but

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[51] "Tambien pueden usar en compleziones frias polvos de la simiente del laurel peso de dos reales, en agua de borrajas, y a als a mugeres y niños y gente regalada, les podemos dar sudores de piedra bazar, quanenepile, y la anisoria de Mexico de la contrahierba, cuerno de la habada, triaca de esmeraldas, jacyntos, o peso de medio real de la flor de el nogal , en agua de borrajas, o agua de gindas, o capulís, y para los indios es esta agua muy buena, que se distila con mucha facilidad y casi todo el ano se puede hazer esta agua porque los capulís se pueden guardar pasados, como se haze. Y asi en los indios con solo darles sudores deste agua y quanenpile de contrahierba hara mucho provecho." Ibid., Book II, 55

[52] Ibid., Book 1, 19-20.

[53] Ibid., Book II, 20.

[54] "Advertiendo a vs mds lo que el año de 1596 me sucedió en esta Ciudad de Mexico quando ubo el sarampión, que a ninguno purgue, y fue Dios servido que ninguno se me murio." Ibid., Book II, 78

should be required to bury it along with the vomit and excrement of their patients. Barrios argued that the poor should not be allowed to go about begging, because they might spread illness.[55] Barrios's suggestions illuminate the unsanitary conditions of the city, and the conflation of morality and hygiene in the early modern imagination.

Juan de Cisneros was the most recent arrival among this bunch. Cisneros, a native of Madrid, arrived in the providence in the retinue of Diego Fernández de Córdoba, Marqués de Guadalcázar (1612-1621) in 1612. Like Cárdenas he had hopes for an appointment at the Royal University, but was passed over for the position of *Catedra de Sustitución de Medicina* in 1619, one year after the publication of his work celebrating the "site, nature, and properties" of Mexico City. After this failed attempt Cisneros disappeared from the record, and it is unclear if he remained in New Spain or returned to Madrid with the Marqués.[56]

His *Sitio, naturaleza y propiedades* (1618) approached the local in a much different way. Rather than concern himself with local products, Cisneros established his authority on his ability to understand the neighboring environment. He maintained that knowledge of the site, nature, and properties of a city was essential to good medicine, and argued that the first thing a good doctor should do upon arriving to a new area was to get to know the winds, waters, climate, and nature of the new place.[57] This not only allowed the doctor to understand the types of illnesses present, but the constitution of the people born there, because "things that are born of the land have and guard the nature of it."[58] Cisneros claimed that his ability to understand the environment of Mexico City made him better able to understand its people.

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[55] Ibid., Book II, 50-51.

[56] This is born out by notice of one Diego Cisneros Girón crossing as a *criado* or servant of the Marques, Viceroy between 1612 and 1621. AGI, *Contratacion, 5324, N.1/ 16-06-1612/ Diego Fernandez De Cordoba* (1612). Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 14.

[57] Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 178.

[58] "[P]orque los que habitan regiones montuosas, ásperas y frías tienen grandes y diferentes mudanzas de tiempos y ellos son grandes trabajadores, fuertes y inhumanos, y los que habitan en lugares bajos, en llanos, valles o prados, la naturaleza del lugar es más caliente, y los vientos y las aguas lo son, son pequeños de cuerpo , carnosos, no tan bien hechos como los pasados y de menos trabajo; mas aquel sitio de la ciudad o región que está en alto y en lugar llano, igualmente puesto a todos los vientos y con abundancia de aguas, en ésta los hombres son de buena forma, de ánimos suaves y blandos, dóciles, de fácil ingenio y disciplina; mas aquellos que habitan en desiertos y lugares estériles y que no tienen diferencias de tiempos muy comunes y arrebatadas, estos tales son contumaces y de costumbres malas y diferentes, porque las cosas que nacen de la tierra tienen y guardan el natural de ella." Ibid., 182.

He believed that knowledge of astrology was fundamental for good medicine as astrological phenomena determined the best times for purging and giving medicine.[59] Marshalling authorities such as Galen, Hippocrates, and Marsilio Ficino, among others, he argued that direct observation of the effects of astral influence was necessary, especially in the New World, where astral causes did not necessarily produce the same effects. For example, common medical wisdom indicated that medicines should not be given during the canicular days, the "dog days" of summer. However, Cisneros argued, this did not apply in New Spain, where summer was not hot because of the rains.[60]

Unlike Cárdenas, Cisneros did not embrace local products and foodstuffs. Neither did he prescribe native remedies. Rather, Cisneros complained about the consumption of atole and other local substances, such as *aguas de sabores,* because they made it impossible to predict the time of death. Cisneros believed that estimating the time of death was essential, "because just as health is important to the sick person, fame and authority are important to the doctor."[61] He bragged that when Juan de Velasco died in Mexico of tetanus, he had died on the fourth day, as he himself had predicted, against the opinion of many.[62] Lamenting the state of medicine in the city and the "disorder in giving food to the sick," Cisneros argued that local habits were a hindrance, because "at all hours and times they are giving broths, atoles, waters distilled from substances, and other things that aggravate[d] the illness" and impeded the judgment and certainty of the prognostication. He called this practice of alimentation irremediable, saying that despite his best efforts he could not enforce diets on his patients. He declared he had finally "given up prognosticating in Mexico as impossible."[63]

Like his fellow physicians Cisneros discussed the culture of healing in the colony. Decrying the "pernicious custom" of using various practitioners, he lamented that "though a doctor of better opinion is treating the patient," residents in the city called in all

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[59] It is difficult to gauge his intention with this chapter. Was he selling his merits? or perhaps defending medical astrology? After the ban of 1616 on astrology he may have felt that he needed to make a formal defense of the practice of using horoscopes to determine the prognosis of illnesses.

[60] Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 279.

[61] Ibid., 254.

[62] "[L]e pronostiqué la muerte al cuarto día, contra la opinión de muchos, y murió tan aprisa y con tanta puntualidad, que menospreciando el pronóstico, se fue de entre las manos sin recibir el santo óleo, que por que fue tan notorio lo pongo aquí." Ibid., 257.

[63] Ibid., 270.

sorts of other specialists. Soon, he grumbled, an "Indian woman arrived," followed by "the herbalist, the barber, and in sum there is not a person who does not give their opinion on every occasion." According to Cisneros this confusion of practitioners caused a third of all patients to die.[64]

Cisneros also complained about his competition. Disparaging his fellow doctors by comparing them to curanderos, he argued that they not only made uncertain prognoses, but also put the patients' life at risk by "purging and bleeding carelessly on all occasions, without any knowledge or other guide." Highlighting the social divisions that existed between medical practitioners, Cisneros continued to demean his competition, saying that he was amazed "that it does not make the learned and studied suspicious to use and put to practice the remedies of unstudied barbers and surgeons."[65]

Cárdenas, Barrios, and Cisneros understood their position vis-à-vis local experiences very different ways. While Barrios based his proscription of purges on his experience in using local cathartics such as Mechoacan, which were not as potent as those in Europe, Cisneros claimed that their use was the domain of "unstudied" practitioners. Cárdenas's discussion of the consumption of local products, and Cisneros's frustrations with the habits of the residents of Mexico City indicate a widespread adoption of local habits, customs, language, foodstuffs, and medicine. Barrios's prescription of "the cure of Jalapa" indicates its availability in local pharmacies, while according to Cárdenas "even Spanish women" had taken up smoking tobacco. These habits divided the larger Spanish community, and became symbolically linked with creoles, such that the Viceroy Marqués de Cerralvo was heard to deride his creole constituents during the flooding of 1629, by saying that "if the water had been *atole*, the creoles would have drunk themselves dry fast

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[64] Ibid., 270.

[65] "La segunda causa que impide y hace inciertos los pronósticos es la extrínseca, que con justa razón Galeno llama pecados, los cuales unos son del enfermo, otros de los médicos, si se pueden llamar así tantos curanderos como hay en esta ciudad, que no es la menor calamidad que hay en las repúblicas, los cuales no sólo impiden el juicio de la naturaleza y hacen incierto el pronóstico, sino que ponen en riesgo la vida del enfermo, purgando y sangrando atrevidamente en todas ocasiones, sin ningún conocimiento ni otra luz, sino la poca que les puede haber dado haber oido que algún médico sangró o purgó en tal dolor o calentura, y con esto en todas ocasiones lo ejercitan, que muchas veces me he admirado de remedios que hacen barberos y cirujanos romancistas, que les tiembla la barba a los doctos y estudiosos de ponerlos en práctica y ejercicio."Ibid., 267.

enough."[66] Like many Spaniards, Cisneros disdained local culture, but this did not stop him from valorizing, or "defending" creoles, who probably made up a large portion of his client base.

Though these authors saw local customs differently their stories have many similarities. Spanish immigrants looking for fame and fortune in the New World, Cárdenas, Barrios and Cisneros purported some sort of local expertise, Cárdenas in the determination of local products, Barrios in the curing of local ailments, and Cisneros in his ability to understand the local environmental effects. All three counted on viceregal support and both Cisneros and Cárdenas sought positions at the Real y Pontifical University. All three also joined Enrico Martínez in a discussion of the different bodies of New Spain. Using the same ideas discussed in chapter one, these authors highlighted the many different "complexions" of New Spain.

II. Bodies

When Juan de Mendoza y Luna, the Conde de Montesclaros (1603-1607) was appointed viceroy of New Spain, Pablo de Laguna, the president of the Council of the Indies gave him advice concerning his comportment in the kingdom. Laguna directed the Conde not to "raise his eyes without order," because the people in New Spain were "somewhat malicious, uncommon, spirited, but also noble and easy to rule and guide." The virrey (literally vice-king), Laguna advised, should not look directly at the people, nor raise his voice in anger. Rather, he should always manifest patience and consolation, piety, and a well-appointed home and retinue. Laguna's councils prepared Montesclaros to fill the role of king, for "in that land there is no king more than the virrey," in a world where ceremony defined power, but they also prepared Montesclaros to carry himself like a Mexican prince.[67] Since the conquest Spaniards, such as Cortés, had noted prohibitions

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[66] Hoberman, "Bureaucracy and Disaster: Mexico City and the Flood of 1629.", 220.

[67] For works on the importance of ceremony and procedure to the maintenance of power see:Curcio-Nagy, *The Great Festivals of Colonial Mexico City; Performing Power and Identity*, Ramos, "Succession and Death: Royal Ceremonies in Colonial Puebla.", Cañeque, *The King´S Living Image: The Culture and Politics of Viceregal Power in Colonial Mexico*.

about looking indigenous rulers in the eye, and Laguna reminded Montesclaros about the importance of physical carriage, and gaze.[68]

Writing in 1587, Gerónimo de Mendieta, a Franciscan Friar, observed a similar change among friars who worked with the Indians. Mendieta argued the manners of the Indians caused the friars to modify their own behavior, forcing them to "put aside the anger of the Spaniards, their pride and presumption, and make themselves Indians with the Indians, *phlegmatic* and patient as they are, poor and half-naked, gentle and humble as they are." The friar argued that Indians were like children of nine or ten years old, incapable of governing themselves. Their bodies, he argued, were weak and they were lazy, timid, and fearful. [69] Noting that many tried to compare them with Spanish peasants (capable of being governed by the regular clergy), this was a mistake, he claimed, because they were really like children "who had not reached the perfect age."[70] The Indians, he argued, were "so phlegmatic" and lazy that they were not even able to look out for their own interests, and needed to be flogged and kept in line.[71] Playing up their natural capacity to be led and "imprinted" with the faith, Mendieta cautioned the king that many made the mistake of comparing the Indians to the Moors. But this should not be done because they are not like them, and "leaving the Indians to their free will, they would be worse than any other nation of people."[72] Though they possessed reason and the natural inclinations to be good Christians, they were unable to govern themselves.[73]

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[68] Hanke and Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria: México Ii*, 267-272.

[69] "[Y] esto por se los indios comúnmente flacos de fuerzas y flojos, y juntamente por se de su natural tímidos y pusilánimes." Mendieta, *Códice Mendieta: Documentos Franciscanos, Siglos Xvi Y Xvii*, LXIII, 28.

[70] "De aquí tambien se entiende el error que teinen los que no conociendo á los indios los comparan, para el efecto de su gobierno, á los labradores pobres de España, ó á otras maneras de gente de poca suerte, porque á ninguna manera de gentes antes de ellos conocidas se pueden equiparar ó igualar, sino á solos los mozuelos que aun no han llegado á perfecta edad…"Ibid., LXII, 9-10

[71] "La otra mala propiedad que tienen los más de los indios es natural flojedad y perza, por ser tan flemáticos, que si los dejan se dejarán y olvidarán á si mesmos, por lo cual tienen necesidad de quien los complea á lo mismo que á ellos les conviene; y esto tenianlo en tiempo de su infidelidad, que los mandones eran bien solícitos en traerlos ocupados, y en la era de ahora no falta,…"Ibid., LXII, 10.

[72] "[P]orque en dejándoles á su libre albedrío, en todo serian peores que ninguna otra nación de gentes."

[73] In Part Mendieta was arguing for the importance of the regular clergy and the evangelizing mission, against those who claimed that the evangelization having already been accomplished, the regular clergy ought to behave more like they did in Spain, staying inside their convents and monasteries, and leaving the

As we have seen in previous chapters, many Spaniards also imagined degenerative corporeal changes associated with the land. Men such as Bernardino de Sahagún and Francisco de Hernandez thought the land had a negative effect on Indians and Spaniards alike. Following well known tropes about the abundance of Asia, they imbued New Spain with similar characteristics, deriding the sensuality and inconstancy of Spaniards residing under the New World heavens, attributing the same "inclinations" of the Indians, to resident and native born Spaniards.[74]

By the turn of the seventeenth century this relationship between man and the land needed to be re-evaluated. Colonial society was now heavily creole, and these native-born sons chaffed under insinuations about the effects of the land. The question became: how to rescue the creoles from the effects of the New World environment? One answer involved a re-imagination of the land and its effects, and to a degree these authors all contributed to this project. For example Cárdenas, Martínez, Barrios, and Cisneros all argued that the temperate nature of New Spain was propitious for the production of great intellects, good habits, and refined speech. Cárdenas praised the diversity of climates in the New World, saying that "man cannot choose a gentler, more delightful or gifted habitation than the Indies."[75] Cisneros celebrated the temperateness of the city, its fabrication, and especially its residents, paying particular attention to the merits of the Archbishop, Juan de la Serna, and the Viceroy, the Marquis de Guadalcázar, his long time patron.[76] However, both Martínez and Cisneros argued that the lagoon surrounding Mexico City was unhealthy and that the fruit of the kingdom had less sustenance than the fruit of Europe, and Cárdenas argued that men lived shorter lives in the Indies. Although "gentle," he believed that the New World climate lacked "a perfection" caused by the

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care of the flock to the secular clergy. But he was also expressing commonly held ideas about Indian bodies.

[74] "Y no me maravillo tanto de las tachas y dislates de los naturales desta tierra, porque los españoles que en ella habitan, y mucho mas los que ella nacen, cobran estas malas inclinaciones, los que en ella nacen, muy al propio de los indios, en el aspecto parecen españoles, y en las condiciones no los son…" Sahagún, *Historia General De Las Cosas De La Nueva España* Vol 2, Book 10, p. 629. "But plants do not have deep roots, nor is anyone's mind constant and strong, and the people who are born now and who in their turn begin to occupy these lands, are either of Spanish descent, or come from an ancestry of diverse races; if only they would obey Heaven, not degenerate until they adopt the customs of the Indians." Varey, ed, *The Mexican Treasury: The Writings of Dr. Francisco Hernandez*. (1:23), 73.

[75] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 105.

[76] Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 225, 226.

changing of the seasons that governed his homeland.[77] Indeed, Cárdenas found it almost "repugnant to nature" that fruits should be harvested in the winter.[78] Environmental defenses fell apart at the edges, as these European natural philosophers tried to reckon with the nature surrounding them.

What is more, a strictly environmental argument would not only elevate creoles, but their fellow "natives." Enrico Martínez explained this problem in the form of a question. He noted that, "[i]f in this land occur the qualities to accommodate the production of good minds, the "natives" of the land should be very advantaged, because they and their ancestors have enjoyed them [longer]." This being the case, he observed that "the dark ones (blacks and Indians) should be equal in ability to the Spaniards, because all participate equally." However, he exclaimed, "*experienc*e demonstrates the opposite, and we *see* that these people are very inferior to the Spanish in ability."[79] Although he conceded that the Indians and blacks born in New Spain were smarter than those born in other places, he argued that they were not the same as native Spaniards. As Cañizares has pointed out, "[a] full fledged, consistent defense of the environment […] could only undermine tenets that most colonists assumed to be true, namely that Indians were slow-witted *phlegmatics* who needed to be forced to work."[80]

The answer then, lay in the body, in the material of the body, and these authors sought to describe the bodies of New Spain's residents and the differences between them. Encarnalizing tropes established during the conquest and consolidation of the kingdom, they came up with scientific theories to explain something apparent to all: that "Spanishness" was in the body, as much as in habits, education, or place of birth, and creoles shared this quality with their peninsular brethren despite the fact that they were born and raised in different environments. Essentializing Spanishness, Cárdenas, Martínez, and Cisneros argued that this quality could be passed down through generation, despite diverse heavenly influences, and that this quality reigned in creole bodies, which

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[77] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 100.
[78] Ibid., 100, 106.
[79] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 307.
[80] Cañizares- Esguerra, "New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600- 1650..", 37.

garnered only an "accidental" quality from the land. Spanishness could be inherited, and predominated in the bodies of Spanish descendants in any part of the world.

Juan de Cárdenas, Problemas y Secretos Maravillosos de las Indias *(1590)*

Juan de Cárdenas was not the first Spaniard to speculate concerning the composition of Indian bodies, but he was the first person to assign a heavenly influence to the Indies, or to contemplate the reproduction of Spanishness in the New World. Although he acknowledged that within any population there were some who were more or less humid, hot, or dry, he assigned complexions to each group based on their relationship to place. Underlying his propositions was an understanding of heredity very similar to Lamarkian notions of inheritance. Place remained central to his understanding of difference, but he imagined its affects cumulatively - arguing that certain accidental characteristics, such as skin color and beardedness, were inherited through generation.

Following a long tradition which associated lands near the equator with the Sun, Cárdenas gave this planet primary dominion over the parts of the Indies that fell inside the Torrid Zone. According to Cárdenas this planet caused a sanguineous effect on the natives of the colony. He applied this to both the Indians and the children of Spaniards, but qualified each of these opinions. According to Cárdenas the Sun caused the Indians to be sanguineous but the land caused them to be phlegmatic. This phlegmatic nature explained the fact that the Indians did not, in general, go bald. Baldness, he argued, was associated with internal heat and the dryness of old age. The Indians, having a cold and wet nature, did not dry out the same way.[81] Although beardlessness was also frequently associated with the superfluity of phlegm and coldness (as in the case of women and eunuchs), Cárdenas saw Indian beardlessness as a generational issue. Noting that beardlessness was an *accidental* quality like color, "which follows the semblance of the parents," Cárdenas explained "that just as *naturally* from a black father is born a black child and from a white (father) a white child, so it is with the growth of the beard; that is if the father is smooth and without beard, as is the Indian, so is his child, and thus I say that as these Indians by their own nature have this property preceding from their fathers,

[81] Here he is careful to note that there are variations and that some Indians were hotter, etc. just as some Spaniards did not lose their hair. Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 260.

grandfathers and beardless ancestors, that is how they are and how they would be *no matter in which province of the world they lived*."[82]

However, Cárdenas imagined the transmission of beardlessness as coming from "savage" ancestors who were influenced by environment. To account for the Indians' smooth countenance he imagined the history since the Flood. Supposing that Noah and his sons were bearded, as Europeans were, Cárdenas argued that the Indians of New Spain had once lived "like the Chichimecs," an ethnic grouping used to describe many different Indian groups, that came to symbolize "savagery" in the colonial imagination. According to Cárdenas, this "savage" lifestyle, open to all the vagaries of the environment, had hardened the cutis of the skin so that hair could not grow. His argument prefigured a Lamarkian style understanding of inheritance, in which changes might be passed down to the offspring. In this case "savage" living created bodily change, which persisted in the bodies of the more civilized Indians of New Spain.

Some believed that the Chichimecs were so different from the Indians in the rest of New Spain that they had different bodies, but Cárdenas argued that the differences were only habitual. During this period many Spaniards, recently returned from Luis de Velasco's campaigns against the *Chichimecs*, described their amazing ability to live without water, and their rapid demise upon capture. Cárdenas noted that this had led many to suppose that Chichimecs were fundamentally different from both Spaniards and Indians. Chichimecs could live without water, but they could not sustain "civilization," and once "tamed" and brought to live in Christian settlements they perished. Cárdenas argued that both of these characteristics were habitual. Anyone raised only on prickly pear might develop the ability to live without water. He attributed the mortality of the Chichimecs who were brought "under our [Spanish] power" to a change in customs, and their sadness and own will to die. Describing a sort of wild but ultimately healthy lifestyle, Cárdenas noted that the Chichimecs were "raised to run and jump over hills and off cliffs…. enjoying healthy clean dry air." They were also used to eating "raw" and uncooked food, but once in the "big city" their lives changed drastically; they ate Spanish food, got little exercise, and were exposed to a life in the "pits" replete with bad humors.

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[82] Juan de Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, Coleccion La Historia De La Medicina En México (Academia Nacional de Medicina, 1590), 262.

While their savage lifestyle left them "healthy and valiant," the rapid change in habits made them get sick and die.[83]

To explain Spanish bodies, Cárdenas looked to the choleric designation of Avicenna (Ibn Sina, ca 980-1037), a Persian doctor who incorporated Galenic and Islamic medicine into his practice. This opinion backed long-held beliefs about the "fiery" nature of Spaniards, explaining the violence and aggression of the colonial system, and the binary, hot and cold, of the humoral system. The Indians were phlegmatic - cold and humid and passive, while the Spaniards were choleric - hot and dry and active. Characterizing Spaniards in this way, Cárdenas demonstrated his position within a complicated geography of identity. As we saw earlier, this type of generalization traditionally described others, such as Ethiopians or Asians. By appropriating Avicenna's designation, Cárdenas created a shared identity for Spaniards that was not commonly adopted by his Spanish counterparts.[84]

Cárdenas believed that the new land affected Spanish bodies differently than it affected Indian bodies because of this fundamental difference in disposition. He argued that the land caused Spaniards to grey faster, because it caused "accidental" phlegm in their bodies. Noting that there was a difference between those who were phlegmatic in their composition, as were the Indians, and "accidental phlegm," which might be caused by living in a humid climate or eating phlegmatic foods, he argued that Spaniards, being

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[83] "En su tierra estaban enseñados a correr y saltar por breñas y peñascos, donde despedián y consumían con aquel ejercicio fuerte todo mal humor, ultra de que gozaban de aires sanos, limpios y enjutos, y todo esto les era a ellos vida, siéndoles al contrario muerte el venir a vivir en casas de poblazón, donde ni bien se ejercitan, ni bien gozan de buenos aires, sino antes viven abajados y repletos de todo mal humor, de que con mucha facilidad enferman y se mueren; también la tristeza, coraje y melancolía que les carga, de verse entre gente que tan por extremo aborrecen, les mata y entierra, y lo que peor es, que aun que después de enfermos los quieran curar, no a ha lugar a ellos, lo uno porque ellos muy de propósito se dejan desfallecer y desmayar y se echan tan de verasa morir que nada les aprovecha, y lo otro, porque como nuestros mantenimientos les son extraños y violentos, lo se dan fuerza ni vigor para resistir el mal, y asi tiene por remedio la gente diestra en esto, no quitarles en muchos días su mantenimiento natural, que es carne a medio asar o cruda del todo, o maíz crudo o mal cocido, hasta poco a poco hacerlos a nuestras comidas, y si una vez se hacen, es contento después ver lo que lucios y gordos se ponen; así que toda esta delicadeza, enfermedad y muerte de estos miserables; siendo de suyo tan sanos y valientes, mana y consiste en la mudanza de aires, mantenimientos, costumbres y modo de vivir, por donde se puede con justa razón decir por ellos, que mudar costumbre es a par de muerte…" Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 277.

[84] Spanish astrological texts frequently referred to the seigniorial position of Jupiter (Ptolemy) and Sagittarius, but I have seen no reference to Spaniards as choleric- which would, as Martínez argued later, imply the domination of Mars.

naturally choleric, went gray early in the New World because of this accidental phlegm. This, he claimed, was exacerbated by the habits of Spaniards in New Spain, who ate and drank too much, got little exercise, and had too much sex.[85] Excess, according to Cárdenas, was a feature of the New World environment that was particular to Spaniards, both creole and peninsular.

Cárdenas frequently addressed local debates over the New World nature. Discussing a belief among colonials that creoles had shorter lives, Cárdenas noted that many, "especially among the native born," argued that there was no difference whatsoever between Spaniards and creoles. These people contended that it only seemed this way because there were so few creoles born in the first years of the conquest, and that many of these had succumbed to disease. But Cárdenas disagreed, saying that although the creoles were sanguineous, which was the longest lived of the complexions according to Aristotle, they had shorter lives because of the inclement heat of the land, and the deficiency of the food. [86] Cárdenas further contended that creoles succumbed to death at a younger age, because they were given to vices and bad habits such as women, idleness, and eating to much. These factors in combination with the "common sickness, which in this land commonly remains in the stomach," shortened the lives of native born Spaniards.[87] This opinion corresponds with arguments made by many other Spaniards, such as Doctor Pedro Arias de Benavides, who argued that Spanish males born in Santo Domingo led short lives, or Doctor Agustin Fárfan who argued that the heat and putrid fruit meant that few men lived to fifty.[88]

Creoles, according to the young doctor, were a product of two worlds. They received, he argued, the choleric nature of their parents through generation, and a sanguineous complexion through environmental influence. Just as the Indians inherited

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[85] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 285.
[86] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 245.
[87] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 249.
[88] Arias argued that the heat of the Indies corrupted the hot bodies of young men, but that it did not have this affect on women, who lived to be quite old. Arias de Benavides, *Secretos De Chirurgia, Especial De Las Enfermedades De Morbo Galico Y Lamparones Y Mirrarchia, Y Assi Mismo La Manera Como Se Curan Los Indios De Lagas Y Heridas Y Otras Passiones En Las Indias, Muy Util Y Provechoso Para En España Y Otros Muchos Secretos De Chirugia Hasta Agora No Escriptos*. p. 10. Fárfan did not distinguish between Indians or Spaniards, implying that all men born in the Indies led shorter lives. Agustín Farfán, *Tractado Breve De Medicina (Facsimile of 1592 Ed.)* (Madrid: Col. de Incunables Americanos, X, Cultura Hispánica, 1944), 249.

beardlessness, the creoles inherited the hot and dry nature of their parents, but they also accrued a tempering sanguineous nature. Using the same progression of the human body that we saw in Huarte's description of aging, Cárdenas noted that as children creoles tended to be more sanguineous, because humidity predominates in this age, but that as they got older the sanguineous element burned off leaving the creole mostly choleric by adulthood, and "this *we see* in the proof of having similar complexions, because all [the creoles] are in general white and red (as they do not have mixture of the land); they are also frank, liberal, cheerful, spirited, affable, well conditioned and content, which are the same customs and qualities of the sanguineous and choleric complexion."[89]

Creoles, according to Cárdenas, were shaped by the heavenly influence of the Sun, but they did not have "mixture of land." It is not entirely clear what Cárdenas means by "mixture of land," but it seems to reference skin color. Later, in a discussion of the origins of bubos, Cárdenas used the phrase again referring to people with "mix of land." Cárdenas, like many, argued that syphilis was not a "French" disease, but an American one which the Spanish had spread throughout the world. Describing its origins, he noted that the disease was "started by blacks, Indians, mulattos and people who have *mix of the land*, because all of these, for the most part, live with little cleanliness or modesty."[90] Although in other places the young doctor accused Spaniards of sexual excess, here he attributed the spread of *bubos* to the sub-strata of the colonial hierarchy. "Mixture of land" probably denoted mestizos, who were frequently lumped together with mulattos, blacks, and Indians into a plebe frequently referred to as *castas*.[91] According to Cárdenas this entire group of people lived with "little cleanliness or modesty." Mestizos, the young doctor implied, received the humid influence of the land, through generation, while *criollos*, merely received the astral influence of the Sun.

While "mixture of land" made mestizos unclean, the heavenly influences of New Spain made Spanish offspring intelligent and well spoken. Discussing the qualities of the

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[89] Emphasis mine. Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 252.

[90] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 269-270.

[91] Douglas Cope has argued that starting in the late sixteenth century poor Spaniards began to be lumped in with blacks, mulattoes, mestizos and zambos in an underclass which needed to be compelled to work for a living. Cope, *The Limits of Racial Domination: Plebeian Society in Colonial Mexico City 1660-1720*, 20.

creoles he compared them to *gachupínes,* and *chapetónes,* slang terms for newly arrived Spaniards.[92] He contended that Spaniards born in the Indies possessed sharp, transcendent, and delicate minds, and he compared someone born in the Indies (in a small poor "barbarous" Indian town with only the company of four laborers) with a recent arrival from Spain or *gachupín* (also raised in a village). Cárdenas wagered that if these two were put side by side, we would see that the Spaniard born in the Indies speaks so "smoothly, courtly and attentively and with such preambles, delicacy and rhetorical style, not schooled nor artificial, but natural, as if he had been raised his whole life in court and in the company of well-spoken and discrete gentlemen." While the recent arrival, the "*chapetón*, as he has not been raised with city folk, there is not a stick with bark that is more course or maladroit."[93] Creoles were natural masters. Though they were raised in "barbarous" places, they acquired a natural eloquence, while Cárdenas depicts the new Spanish arrivals as small town yocals, with poor educations and a lack of refinement.

Cárdenas's descriptions of the people of New Spain and his use of slang terms such as *gachupín*, speak to the cultural gulf between newly arrived Spaniards and their native born kin. His theory of generational transfer, on the other hand, linked these two groups as one. Although native born Spaniards led shorter lives, they shared the same "essential" nature as their peninsular kin, without "mixture of land." Whereas others had accused the creoles of lax behavior and over-indulgence, Cárdenas argued that this habit was prevalent among all "Spaniards," who grayed prematurely because of it.

Enrico Martínez, **Reportorio de los Tiempos y Historia Natural de esta Nueva España *(1606)***

Unlike the rest of this group, Enrico Martínez was not a physician but a German polyglot printer and cosmographer primarily interested in astrology. Therefore, aside from a small section of medical aphorisms, Martínez focused primarily on the body's relationship to astral machinations and heavenly influences. Martínez understood the cosmos as a "universal machine" and the body as the "abbreviated world," part of a

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[92] *Gachipín* is from the Portuguese for child, *cachopo*; *chapetón* means novice but also referred to new arrivals, especially in Honduras. "Diccionario De La Lengua Española," (Real Academia Española, 2003). García Icazbalceta, ed, *Nueva Colección De Documentos Para La Historia De México*, xi

[93] Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 250.

harmonious order that "united in the service of man, who is the epilogue and abbreviation in whom coincide all things created." Man's body had relation and affinity with the cosmos "because in the heart [he resembles] the sun, in the brain, the moon, in understanding he resembles the angels, and in the spleen, Saturn, in the liver Jupiter, in the bile Mars and in the other faculties the other planets; in the humors the elements, in the feelings the animals and in the growth, the plants; for this reason some philosophers call him Abbreviated World." [94]

Martínez described the relationship between the stars and man in a number of ways and frequently his interpretations were oblique, available to any reader willing to read between the lines, but not directly stated. His horoscopes, for example, have traditionally been read by historians as a gesture to popular science, and while some have speculated about whether his description of the mathematically inclined Virgo was autobiographical or not, they have missed the larger significance of his readings.[95] Following the tradition of the time, Martínez's horoscopes described both the physical and mental attributes of those born under each sign. For example, those born under Scorpio might be "a little dark, with lots of hair." Those born under Aquarius might be "of medium stature, naturally affable and humane, of good customs and digestion, generous and friends to honorable things and keeping secrets." His readers might have guessed that his tall, honest, mathematical Virgos were based on his own talents, but they surely would have understand that his description of Sagittarius described those born in Spain, as this sign was constantly associated with that province in Spanish texts. [96] According to Martínez,

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[94] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 5.

[95] Those born under Virgo might be "apt for understanding whatever art, especially mathematics to which he will be inclined." (translation mine) Pascoe, *La Obra De Enrico Martínez: Cosmógrafo Del Rey, Intéprete Del Santo Oficio De La Inquisición, Cortador Y Fundidor De Caracteres, Tallador De Grabados, Impresor De Libros, Autor, Arquitecto Y Maestro Mayor De La Obra Del Desagüe Del Valle De México*. 1606.

[96] Sagittarius ruled over Spain, Portugal, and Hungary. Francisco Vicente de Tornamira, *Chronographia, Y Reportorio De Los Tiempos, a Lo Moderno, El Qual Trata Varias Y Diversas Cosas: De Cosmographia, Sphera, Theorica De Planetas, Philosophia, Computo Y Astronomia, Donde Se Conforma La Astrología Con Medicina: Y Se Hallaron Los Motivas Y Causas Que Ha Avido Para Reformar El Año: Y Se Corrigen Muchos Passos De Astrología Que Por La Dicha Reformacion Quedavan Atrasados. Con El Lunario Que Dura Veynte Y Ocho Años, Dende El Principio Del Año Mdlxxxiii Hasta El Fin Del Año De Mdxc Y Con Los Eclypses Que Aurá En El Dicho Tiempo, Con El Pronóstico Dellos Y Con Los Catálogos De Los Reyes Que Ha Avido En Todos Los Reynos Y Provincias Del Mundo. Compuesto Por (...)* (Pamplona: Tomás Porralis, 1585).

those born with Sagittarius on the horizon would be "inclined to war and horsemanship." They would have many enemies but would be "shy, affable, honest, and adventurous," and would be "friends of crossing the sea and living in far away lands." Likewise his reading of Capricorn, the sign he assigned domination in New Spain, has a special significance. According to Martínez, the influence of the zodiac differed for men and women. While men born under Capricorn might be "wise, prudent and of little presumption," given to religion and "great things," women would be "badly conditioned, although fearful and modest."[97] Reading between the lines we can presume that the first description referred to creoles, while the second the Indians.

The heavens of New Spain, according to Martínez, affected the Indians and creoles in different ways. He argued that Venus shared dominion with the Sun over New Spain and that this planet had particular dominion over the Indians, while the creoles were mostly affected by the Sun. According to Martínez Venus made the Indians phlegmatic, while the influence of the Sun made them sanguineous. However, he argued that Venus had more influence over the Indians than did the Sun, and thus they participated more in the phlegmatic complexion "which we find to conform more to their regular actions and customs."[98] Finally, he agreed with Cárdenas that the humidity of the land contributed to this phlegmatic tendency, noting that "we always participate in the land in which we live."[99] Martínez followed Cárdenas's choleric designation for Spaniards and the inheritance of creoles, adding only that Mars (the planet of war) ruled over Spain.[100] As a result of their (hot and dry) choleric inheritance, creoles were able to resist the (wet and cold) influence of Venus, he reasoned. Creoles, according to his construction, received a choleric complexion through generation and a sanguineous complexion from the Sun, while the Indians predominant phlegmatic complexion resulted from the influence of Venus, the humidity of the land, and their secondary sanguineous complexion from the Sun.

Martínez's descriptions of the influence of the Sun and Venus fit into long established tropes concerning the land and its peoples. Aside from a terse statement

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[97] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 70- 76.
[98] Ibid., 281.
[99] Ibid., 281.
[100] Ibid., 282.

saying that, "cholerics are irascible, phlegmatics lazy, sanguineous people benign and joyful, and melancholics sad and envious" Martínez did not describe the various complexions, but his descriptions of the planets and their influence shed much more light on the way he understood the people of New Spain.[101] According to Martínez those born under the influence of the Sun (creoles) were "grave, honest, generous and prudent, ambitious of honor and of being distinguished in their activities." For this reason, he asserted that "manual occupations [did] not suit them well, and they aspire always to greatness." Those born under Venus (Indians), he contended, were "naturally happy" and "given to delights and pleasures." These people had an abundance of "blood and phlegm" and were "suited for practical music and for illuminations and paintings *of little science*." However, he declared that these people were not suited to "[w]ork that requires a lot of imagination, study or physical labor."[102] Recognizing the Indians' role as artisans in the colony, Martínez assigned them a subsidiary role: they might perform works that required "little science," but were not fit for work that required imagination or study.

Venus had been an important planet for the Mexicans, who had a separate calendar to track its motions, it is also quite visible on the horizon for much of the year, and both of these reasons might have influenced Martinez's choice to include Venus.

[101] Ibid., 305.
[102] Ibid., 82, 85.

Figure 1: Image of Venus at Teotihuacán, Photo Robert Peterson

But it is also likely that Martínez chose Venus to rule along with the Sun because according to Ptolemy's division of the world into the seven *climas*, Venus ruled over the fifth clima (Rome), while the sun ruled over the fourth (Rhodes), and Martínez was anxious to equate the new kingdom with these ancient centers of civilization.[103] Martínez imagined the history of New Spain as a series of migrations. First, he argued the Indians came from Courland, a province of Poland, where he claimed to have seen the same "subject and low" people among the "blond and bellicose natives."[104] Following José de Acosta he argued that they had arrived via land from somewhere in the uncharted Northwest. Martínez did not describe how these people came to settle the Americas, but noted that New Spain had been settled by people living "wild like Chichimecs" before the

[103] In his description of these planets Martínez noted which *clima* they ruled over. Mars, the planet he associated with Spain also ruled over Egypt. Martínez argued that the Moon made men who were phlegmatic, "lax and good for nothing." The Moon, ruled over the 7th *clima*: marked by the Dnieper River, which connects to the Daugava, the principle river in Courland. Ibid., 96.

[104] Karl Brambats notes that Martínez's hypothesis was first cited by Torquemada (1513), and by Juan Solórzano de Pereira (1629), Antonio de la Calancha (1638), Diego André Rocha (1682), and by Andrés González de Barcia who expanded García's *Origin* extensively in 1729. Brambats argues that Martínez described "brown-skinned" natives because he reads "baja" to mean "baça" or "bazo" meaning brown, but this is very debatable. More likely Martínez meant humble or lowly, this makes much more sense when one considers that he compares them to their "bellicose" neighbors: "pone admiración ver aquella gente baja y sujeta siendo la gente de las provincias circunvecinas blanca, rubia y belicosa." Karl Brambats, "Enrico Martínez, the Brown-Skinned Courlanders, and the American Indian Origins," *Journal of Baltic Studies* XVII, no. No. 2 (1986)..

arrival of the Mexicans, who had brought a modicum of civilization to the land. He recounted the history of the Mexica up until the conquest and settlement of New Spain, arguing that the fall of Tenochtitlán and the three epidemics that destroyed New Spain's native population were caused by the conjunction of Saturn and Mars in Capricorn.[105] These heavenly events, according to Martínez, were the same sort of machinations that had caused the greatness and then fall of the Greeks, whom he described as "the most dejected people on earth." Once great, the Greeks were now rabble, just as the Indians of New Spain had once been "more bellicose," but were now "subject and low."[106]

The land, according to Martínez, had made the Mexica great, and would do even more for the Spanish whose bodies, consisting of different material, resisted the negative cold and wet influences of Venus and Earth. Not only did the land affect Spanish offspring in a positive manner by soothing the choleric "irascibility," but it also elevated Spaniard immigrants to natural masters. This German printer and astrologer argued that Spaniards who moved to New Spain were transformed by the climate of the young kingdom. Following the Aristotelian argument that "temperate hot" climates produced sharper minds because the body produced fewer obfuscating humors during digestion and maintenance, Martínez added the issue of New World produce. As we saw earlier, Martínez had explained that the fruits of the New World had less sustenance than those of the Old because the roots were shallow. Now, he argued, that this lack of sustenance made them easier to digest which caused less clouding of the mind, but it also caused physical strength to diminish. Therefore, he argued, Spaniards "and other Europeans" (such as himself) gained mental acuity but lost physical force.[107] This construction readily draws to mind Aristotle's construction of a "natural master," whose body, like the robust body of the "natural slave," resembled his social position.

Echoing long established discourse about the fertility and abundance of New Spain, the immigrant astrologer argued that Spaniards were elevated by the "richness,

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[105] However, when the same stars conjoined in Capricorn in 1606 without incident, Martínez explained the lack of disaster as a sign of God's mercy, saying that "only divine majesty permits occurrences that are against the *course of nature*." Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 263.

[106] Ibid., 275.

[107] Of course this loss of strength probably had more to do with the mile high elevation of Mexico City, which must have winded many newly arrived Spaniards.

abundance and fertility of the land." He said, "in Spain and other parts of Europe, where people had to work to sustain themselves, they were unable to cultivate their minds."[108] "But the abundance of New Spain," he maintained, "allowed men to unburden themselves." Thus relieved of the "weight of poverty," their minds became elevated allowing them to take up the "political language used in this kingdom" and demonstrate themselves to be "prudent and wise" in important things.[109] Here the "political language" of the kingdom seems as natural to the kingdom as the fertility and abundance he described.

Martínez lauded the nature of New Spain, which elevated its new residents physically, mentally, and morally, making them more "prudent" and wise. Following Cárdenas's construction of inheritance, Martínez created "Spanish" creoles that were able to maintain their bodily heat despite New Spain's heavenly influences. At the same time he degraded the creoles' fellow "natives." By creating lazy Indians, Martínez justified the use of the *Repartimiento*, a forced labor draft that would provide the manpower for the *Desagüe de Huehuetoca*, a massive drainage ditch he would begin the following year. The Indians, he claimed, were naturally lazy but capable of arts and study "of little science." As we saw in the last chapter, Martínez would later deride the recommendations of a competitor, Adrian Boot, as being "the simplest types of works *that the Indians could do alone.*"[110] The Indians, Martínez implied, needed the Spanish to complete the land.

Juan de Barrios,* Verdadera medicina, cirugía, y astrología *(1607)

Juan de Barrios affirmed that the new land made intelligent creoles, and he hoped that this illustrious group "of highest intellect" would soon produce new "difficult and

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[108] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 179.

[109] "[Y] no sólo se acomodan al lenguaje político que en este reino se usa, mas también se muestran ser sabios y prudentes en las cosas de importancia." Ibid., 178.

[110] Emphasis mine. "[P]arece no ser ingeniero ni haberlo sido en ninguna parte del mundo en Paz, ni en guerra porque ignora la Aritmética, Geometría, Arquitectura, la ciencia de Porideribus, la natural y todas las demás facultades que a un Ingeniero forzosamente han de acompañar y assi con razón se podrá dudar si el dicho es la persona que el Reyno nuestro ha enviado a esta tierra, pues las ocupaciones que en ella ha tenido son de muy poco y de casi ningún ingenio, porque limpiar Acequias, desarenar ríos, echar tierra sobre las calzadas son simplísimas obras que los indios a solas las solían hacer." AGN, *Desagüe, Vol. 3, Exp. 1, F. 7, Informe De Henrico Martínez Sobre La Obra De Desagüe De Esa Ciudad De México.* , 5.

intricate works" on things never before examined.[111] But in the meantime he offered his own pen for the benefit of the kingdom's residents. Barrios did not take up Cárdenas's ideas about the difference between the new lands' residents directly, but his text illustrates the stereotypes surrounding complexion. Associating physicality with complexion, Barrios's text provides a counterpoint to those of Cárdenas, Cisneros, and Martínez in that he portrayed an incredible variation among the peoples of New Spain.

Although Barrios's text is titled "true medicine, surgery and astrology," he essentially argued against astral influences, saying that at best heavenly influence contributed to the generation of things by "warming the air."[112] According to Barrios, the influence of the heavens was "universal" and we should not attribute the homicides of certain African peoples or the womanizing of the Persians to the influence of Mars or Venus, but rather to their own "disposition."[113] He believed that in order to treat an illness one needed to know the complexion of the patient, and he spent considerable time delineating the difference between different complexions so that his readers might be able to make effective cures. Although Barrios did not specifically identify Spain's residents in his description of complexion, these descriptions offer interesting testimony to the variety of physical types in the colony, and the language used to describe them.

Many of Barrios's descriptions seem culled more from popular lore than Hippocratic medicine, but taken together they give a very good picture of the stereotypes associated with the different complexions. For example, in Barrios's description of the different effects of "plenitude," a disease common among recent arrivals, we see classic representations of the choleric and phlegmatic. According to Barrios, plenitude was caused by overeating and drinking and "living an idle life," and was common among newly arrived Spaniards, but it had different symptoms in different types of people. It might cause cholerics to be "bitter, "complain a lot, have little appetite, vomit cholera, and have choleric stools." However, he argued, the same illness manifested in bodies

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[111] Barrios, *Verdadera Medicina, Cirugía Y Astrología*, 49r.
[112] Ibid., 47v.
[113] Ibid., 47r.

that were abundant in phlegm by producing a profusion of saliva, white urine, sleepiness, and slow digestion. [114]

Like Huarte, Barrios tended toward binary descriptions that created binary personality divisions. Hot people, he argued, were identifiable because they were hot to the touch, thin and wiry, with obvious veins and lots of curly black or red hair.[115] They slept little and moved quickly. Cold people were the opposite. Slow to grow beards and hair, they had little intelligence, small veins, and cold skin. These people were "great sleepers" (*muy domilones*).[116] According to Barrios, humid people also lacked vitality. These people had "soft and limp faces." The joints of their body were not visible and they had "*little virtue* and do not suffer work well." Barrios contended that these people are corpulent with few hairs and that when they did work they tired easily. Humid people lacked a physical predisposition that encouraged virtue. Dry people, on the other hand, were "rough and wiry and hard." These people were "good workers" whose actions were rapid and "daring."[117]

Associating color with complexion, Barrios described a range of different peoples without specifying origin or ancestry. Starting with "white" people, he divided this group into the various complexions. Those with skin the color of "marble, or snow, or lead" were cold; those "pulling toward red" were hot.[118] Those that were white with "clear red" were temperate, but if the red "overpushes" these were sanguineous. Those with

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[114] Ibid., 39v.

[115] Barrios uses the word "rubio"- which is frequently translated as blond- but he adds that this indicates the color of *achiote*, a Mexican fruit with prickles on the outside and red seeds., which are used to make a powder.

[116] "Y los que tienen complexión caliente como los conoceremos? D. En que al tacto los sentimos calientes y en que son cuerpos delgados y magros y en que tienen las venas muy patentes y el movimiento y todas sus obras las hazen muy velozmente y duermen poco y tienen muchos cabellos crespos y negros o rubios como el color de achiote, y los que son fríos de complexión en que tarde les nace la barba y pelos, y no son de muy buen ingenio y todas sus obras las hazen muy tardas, y los tales tienen los pelos ralos, y pequeños y parece que no respiran y al toque estan fríos y estos tales poco o no nada engendran y son muy dormilones." Barrios, *Verdadera Medicina, Cirugía Y Astrología*, 38v.

[117] Ibid., 39r. Barrios's dry people seem to be drawn from Hippocrates' description of men from hot dry places. "the land is bare, waterless, rough, oppressed by the winter's storms and burnt by the sun, there you will see men who are hard, lean, well articulated, well braced and hairy. Such natures will be found energetic, vigilant, stubborn and independent in character and temper, wild rather than tame, of more than average sharpness and intelligence in the arts, and in war of more than average courage." As cited in: Evans, "Physiognomics in the Ancient World.", 19.

[118] "[T]irante a rubio" but he has already specified that these rubios were the color of *achiote*, redish orange.

white mixed with green were phlegmatic. Moving on, he noted that those people the "color of eggplant or mulatto-like" were melancholic. According to Barrios, greenish yellow skin was sign of a hot complexion, and those that were yellow and white were cholerics. This color mixed with green, and "fresh," and those that "we call greenblack" or quince colored, were, according to Barrios, the "worst complexion," but he did not say what that was. Those who were black with mixture of green were "burned melancholics" while those that were just black were melancholic.[119]

Barrios's descriptions highlight the physical variety in the colony and the language used to describe it. People and their colors were as varied as the foods describing them: eggplant, achiote, and quince. Phrases such as "burned melancholic," "greenblack," and "mulatto-like," denoted personality and aspect. Like Cárdenas, he associated overeating and drinking with new arrivals to the kingdom and in other parts described Spaniards as chapetones, but it is hard to know if his descriptions fell along ethnic boundaries. His descriptions might have described the various "nations" of New Spain defined by Cárdenas, but without specific designations, it is hard to say for sure. What is significant about Barrios's description is that he recognized a variety of complexions within each color group (except people with black skin who seem limited to varieties of melancholy).

Just as today some think of anal people rearranging flower pots, early modern Spaniards imagined phlegmatics snoozing the day away. Hot people were thin, wiry, fast, thirsty, hairy, irritable, and stinky.[120] Cold people were slow, hairless, round, and soft. Humid people dreamed of rivers, hot people of fire and lightning, and those of a melancholy persuasion dreamt of obscure, terrifying, or deep things.[121] These correlations were natural and obvious for early modern Spaniards, who saw a fundamental connection between the macrocosm and the microcosm.

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[119] Barrios, *Verdadera Medicina, Cirugía Y Astrología*, 37.

[120] Barrios refers several times to the fact that hot people had foul smelling sweat, an interesting observation in light of the difference in bathing habits between Spaniards, who did not think it was healthy, and the Indians, who bathed both ritually and for reasons of sanitation.

[121] Barrios, *Verdadera Medicina, Cirugía Y Astrología*, 41.

Diego de Cisneros, Sitio, Naturaleza y Propiedades de la Ciudad de México (1618)

As the title of his work implies, Cisneros dedicated his work to the "situation, nature, and properties" of Mexico City, and the relationship between place and people. Cisneros based his work on Hippocrates's *On Airs, Waters, and Places*. Noting that both Aristotelians and Platonists follow the wisdom that different regions make different people, Cisneros praised the order of God's creation and described the harmony, beauty, and order of the universe. Echoing ideas about place and grace, Cisneros declared that God had given this creation to "those that were created first so that we could inhabit it, and he chose and elected the *place* where [each people] were engendered."[122] These places, he noted were not equal and neither were the people created in them. He quoted book five of Laws which reminded man that, "places differ from one another the good and the bad, that some give more or less to those born in them… and [in some] because of the winds and others for the heat [produce people] divers in customs and figures….this not only alters the bodies for the better or worse health, but also the minds (*animas*) obey the same disposition."[123] Place and body, according to Cisneros, were intricately connected and some places produced better bodies and minds than others.

Cisneros, a very recent arrival in the kingdom, was the most celebratory in his description of the city and its natural properties, and the most laudatory of the Indians. Going back to an argument made by friars throughout the previous century, Cisneros contended that "seeing the ease with which [the Indians] learn *whatever arts and office* of whatever quality, with such perfection," one cannot deem them phlegmatics, whom Arisistotle described as "lazy, feeble and ignorant," and whom Galen said were "clumsy, slow of movement, lazy, forgetful, insensitive, and the color of the body white, all of which is repugnant to the Indians, who are light, curious, of the color *pulling to mulatto*, able and of mind, as one has seen and sees in the arts that they exercise, for which they need intelligence and memory."[124] The Indians, he argued, were not lazy Indians, but

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[122] "[N]o solo siguieron los aristotélicos sino también los platónicos: y así dice esta fábrica y armonía del universo tan hermosa, tan bien ordenada y dispuesta la dio Dios a aquellos que crió primero que a nosotros para que la habitasen, y eligió y escogió el lugar donde habían de ser engendrados." Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 186.

[123] Ibid., 187.

[124] Ibid., 231.

capable of learning, like the "potential Indians" described by Quiroga and Motolinía. However, in another section, describing the people born in the Valley of Mexico, Cisneros noted that the peoples who inhabited plains between mountains enjoyed warm winds, and for the most part "are thick, meaty, not very tall, with black hair and a color more mulatto than white, more choleric than phlegmatic with little tolerance for work and following all the beliefs and education of their ancestors."[125] According to Cisneros, the Indians were more choleric than phlegmatic, yet they had "little tolerance for work."

In another chapter Cisneros noted that the Indians resembled a people depicted by Hippocrates. Describing the lifestyle of the Indians living in Mexico City, who he declared "live in their ancient ways, without having lost the customs and raising of their ancestors," Cisneros declared that Hippocrates's description of the people of Fasio was a "true portrait" of the Indians, worth citing. Hippocrates described the people that inhabited the river Fasio, which Cisneros noted "many believed to have origin in Paradise," as living among many lagoons and swamps in houses of wood and cane. These people, like the Indians, used wooden boats "made of a single log." Hippocrates noted that because these people drank putrid water, heated by the sun, and ate fruit that was picked green, they were often sick. In body, he claimed, these people were "very different from any other nation," tall, robust, and meaty, so that you cannot see their veins or their joints, yellow in color, like someone with jaundice, they had harsh voices, and were "very lazy and of little work."[126]

Cisneros argued that situation was more important than astral influence. Bodies, he claimed, were specific not only to the region, but the city that produced them, the water and food that nourished them, and the airs that bathed them. For that reason he limited himself to a discussion of the natives of Mexico City. Describing the water and situation of the city he took Martínez to task about a number of things. First, he denied the influence of Venus in the colony, arguing that Martínez's assumptions about the creation of the world, the location of paradise, and the number of years since the creation were totally debatable. Citing many authors he examined all of the possibilities, arguing finally that even if any of this held up Martínez had calculated the location of Mexico

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[125] Ibid., 225.
[126] Ibid., 228.

City incorrectly.[127] Writing during a time when Martínez's work on the desagüe was under attack, Cisneros called his capacity as an engineer into question, noting that Martínez was not even capable of placing Mexico City correctly. Cisneros argued that Mexico City was ruled by the Sun and that it was fundamentally temperate. Temperate lands, Cisneros declared, were full of trees, serene, and gentle with regulated winds, convenient rains, and good water. He argued that these lands created temperate people "of equally beautiful and gentle customs." However, because "there is no human thing that can be completely perfect" such people are lacking in "daring and tolerance for work."[128] Echoing a long standing trope, Cisneros affirmed the softening influence of New Spain's environment, without specifying whether he was referring to all residents, or only the Indians.

He agreed with Cárdenas and Martínez about the complexion and inheritance of the creoles. Recognizing three factors for understanding the condition of the creoles he started by demanding that by *criollo*, one should understand the sons or grandsons of "true Spaniards," whose complexions are choleric.[129] He went on to describe the choleric personality as "animated, daring (or impudent), sharp in all the sciences and arts, of an unquiet mind, friends of their opinion, sufferers of work and of a robust complexion and nature."[130] Second, he argued that because creoles were born in a temperate local (Mexico City), they benefited from the climate most likely to breed intelligence according to Galen. Finally in a fairly obvious attempt to flatter the directors of the Royal University, Cisneros declared that creoles were gifted because they received a good education, enjoying a diverse faculty and the most notable instructors.[131] Creoles, he asserted, received the benefits of their choleric inheritance, beneficial environmental factors, and a solid education.

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[127] Martínez had calculated the location of Mexico City at 282 degrees, Cisneros argued that it was 283 ½ degrees. Ibid., 219.

[128] Ibid., 162.

[129] Cisneros's clarification raises the question of whether or not the word *criollo* was commonly extended to those whose parents were not "true Spaniards," ie mestizos.

[130] "La primera, ser hijos y nietos de verdaderos españoles, cuya complexión es colérica y de su naturaleza animosos, atrevidos, agudos y en todas las ciencias y artes muy perfectos; de animo inquieto, amigos de su parecer, sufridores de trabajos y de robusta complexión y naturaleza." Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 232.

[131] Cisneros attempted to obtain a post at the University, but was unsuccessful. Ibid., 233.

Creoles, these authors argued, belonged to the land. They were made of the land, but resisted the cold and damp qualities that so hampered the Indians because the hot dryness of their inherited choleric nature "burned off" the phlegmatic tendencies. This "essential" choleric nature made them fit to rule: masculine, virile, and adept at the sciences and arts of war. It made them Spanish. But they were also Americans, "affable," well-spoken, and shorter lived.[132] Their "irascible" Martian natures were soothed by the gentle effects of New Spain's "temperate" climate, but they retained the vital heat necessary to rule. Inheriting their forefathers' place in the cosmological and social order of New Spain, they belonged to two worlds, and two natures, simultaneously Spanish and native. The Indians, on the other hand, were cold and wet. Like women they lacked the internal heat necessary to rule. Like children they learned easily "any art or office," so long as it was not "of much study."

Their acceptance of the inheritance of "essential" qualities, such as a choleric nature, and "accidental" qualities such as beardlessness and skin color reflected their daily experience in the colony, and a desire among creoles to belong to the larger "Spanish" community. Whereas Spanish natural philosophers looked to the examples and constructions of Aristotle or Galen when describing differences, these authors looked to the world around them. As Martínez noted, "*experienc*e demonstrated" that the Indians and Spaniards were different, despite the fact that they were born under the same stars.[133] Similarly Cárdenas noted that the inheritance of the creole was visible, declaring that "this *we see* in the proof of having similar complexions, because all [the creoles] are in general white and red (as they do not have mixture of the land)."[134] Natural philosophers in New Spain witnessed and experienced inheritance, and the transmission of physical traits, causing them to revise old ideas.

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[132] Cárdenas argued that those born in New Spain had shorter lives because of the heat and humidity of the New World and a deficiency of food. Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 249.

[133] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 307.

[134] Emphasis mine.Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 252.

III. Mortality

The mortality of the Indians led many, such as Torquemada, to question the future of Spanish possessions in New Spain.[135] Torquemada saw the succession of Spanish rule in providential terms, arguing that God's hand quit both the Nahua and the Chichimecs in turn of their sovereignty. Torquemada also argued for the providential origin of Indian mortality. Pondering God's motives, he noted that God had not chosen to preserve the Indians, unknown before this time, to make in new kingdom "for reasons that only God knows." Then, referencing the recent loss of the Low Countries, he declared his hopes that Spain might be able to conserve this land, for Christianity, "even as other, more ancient lands of Christiandom are lost." [136]

In this example Torquemada references two local debates. The first involved the fall of kingdoms, and the second the origin of Indian mortality. The authors under study also engaged these arguments in some way, and their answers reflect a wide spectrum of opinion. Cárdenas looked to "seeds.," Martínez looked to the stars, Barrios to the "material" of the body, and Cisneros to God, but all of them saw the mortality as a *fait acomplit,* unstoppable.

Juan de Cárdenas argued that the *cocolistles* of 1546 and 1576-83 was a natural event. In a chapter about bubos Cárdenas proposed a theory concerning the different kinds of contagion. Like many Cárdenas argued for the American origin of bubos, which was so common in that land that it was called "fruit of the land." He argued that there were two types of properties, and two types of contagion, the manifest and the hidden. Some herbs, he argued, had manifest properties, such as dill, chamomile, and oregano,

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[135] During his tenure at the collage of Tlatelolco between 1603 and 1612 Fray Juan de Torquemada compiled a multivolume work on New Spain and the Franciscan enterprise. Much of the work was drawn from other sources, including Mendieta and Acosta, and letters of many other Franciscans from all over New Spain.

[136] "[C]omo también se vio esto en esta Nueva España, que los indios anuales, que vinieron a ella postreros, echaron de sus sitios a los chichimecas, que eran primeros, y los españoles después, quitándosela a todos ellos que han sido los postreros; y no quiera Dios que a éstos se a quite Dios por causas que él se sabe; y aun quiera Dios que a estos se la quite Dios por causas que el se sabe; y aun todos entendemos si ya no es que quiere conservarlos por hacer otro nuevo mundo de gentes, hasta estos nuestros tiempos, no conocidas de estos naturales, para que así como en otras tierras de cristiandad mas antiguas se va perdiendo, en esta se conserve para su mayor servicio y gloria." Torquemada, *Monarquía Indiana De Los Veinte Y Un Libros Rituales Y Monarquía Indiana, Con El Origen Y Guerras De Los Indios Occidentales, De Sus Poblazones, Descubrimiento, Conquista, Conversíon Y Otras Cosas Maravillosas De La Mesma Tierra*, Vol. 2, 458.

which were hot and operated in a manifest and obvious way in the body. Others operated in a more hidden way, as was the case with the loadstone, rhubarb, and bezoar stones.[137] Cárdenas imagined the "seeds" of different venoms, arguing that each had its own symptoms and effects in the human body. Some like a snakebite, were evident, others, such as the "cocoliste that is given to the Indians without touching the Spanish, a cold, or distemper, the smallpox and others that are of this type we cannot confess are of or consist in a manifest quality."[138] The doctor believed that the cocolistle was a regional contagion like *landre* (the bubonic plague), and for this reason did not "give" to the Spanish, unlike bubos which the Spaniards had transmitted all over the world.[139]

Enrico Martínez, on the other hand, embraced astrological interpretations for both the mortality of the Indians and the fall of Tenochtitlán. As noted earlier, Martínez argued that Capricorn was ascendant over New Spain, the same way that he believed Sagittarius reined over Spain. Martínez contended that the conjunction of Saturn and Mars in Capricorn had negative affects on the *naturales* of New Spain, but these illnesses, Martínez claimed did not "start" with the Spanish because their bodies did not have the same disposition. Martínez noted that there had been a conjunction of these two planets before the fall of Tenochtitlan and the epidemic of smallpox that that accompanied it, again in1546, when according to the count of Viceroy Antonio de Mendoza, the disease called cocoliste killed 800,000 Indians, and yet again in 1576 when another general pestilence killed more than two million Indians.[140] He claimed that although the conquest had been for the good of the naturales and was a "*healthy* remedy for their errors," they had felt keenly the loss of their empire.[141] Although Martínez highlighted the role of these heavenly influences, he also attributed all earthly changes to God, who used the stars like instruments.[142] Martínez maintained that God, being able to

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[137] Stones formed in the stomachs of animals, believed to have many different properties.

[138] "[P]ero un lande o pestilencia, un cocoliste, que da a los indios sin tocar a los españoles, un catarro o moquillo, un endemoniado tabardillo, las viruelas y otros que hay de este jaez no podemos confesar que éstos tales sean o consistan en calidad manifiesta." Cárdenas, *Problemas Y Secretos Maravillosos De Las Indias*, 266.

[139] Ibid., 266- 271.

[140] Ibid., 261.

[141] Martínez, *Reportorio De Los Tiempos Y Historia Natural De Nueva España*, 261.

[142] "que la voluntad de Dios es traída a efecto por medio de causas naturales, que son los cuerpos celestiales, de los cuales usa nuestro Señor como de instrumentos."Ibid., 336.

"go against the course of nature," must have interceded on behalf of the Indians in 1606 when the same conjunction of Saturn and Mars in Capricorn did not result in any notable harm to the Indians.[143] The mortality of the Indians, he implied, was part of the "course of nature," condoned by God, and inevitable.

Martínez imagined the fall of empires as a natural event, arguing that nations were particularly influenced by the fixed stars. Being careful not to say anything that might compromise the "free will" of man, he explained the fall of nations as an alteration of complexion. He argued that the stars might affect a people by changing their complexion, inclining them to either good or bad. According to Martínez, changes might also be affected by God, who allowed people to fall into sin. Such people might even drag down great leaders.[144] According to Martínez, this sort of change explained the Greeks who had flourished "in virtue, arms and letters, such that they exceeded all other nations of that time," but were now dejected and low. It also explained the fact that the Indians had once been more "bellicose" than they were at present.[145]

Juan de Barrios did not discuss the cocolistle in particular, but he did talk about pestilences and their causes. Barrios's main concern was the negation of theories about astral influence. It is likely that this was a reaction to Martínez's theory about the conjunction of Saturn and Mars in Capricorn, although he does not cite it explicitly. Barrios, like his professor Juan Calvo, looked instead to the disposition of bodies, to explain mortality. Barrios argued that the heavens did not cause corruption per se, being

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[143] "Año mil y seiscientos y seis, a veinte y siete de septiembre, sucede otra vez la conjunion de Saturno y Marte en el signo de Capricornio. Sea Dios nuestro Señor servido de que esta vez la experiencia falta, la cual, según Hipócrates, de suyo es engañosa. Demás de esto es fe infalible qe ninguna cosa sucedan sin la voluntad de Dios, cuya divina Majestad ási como permite que sucedan a vees cosas fuera del curso natural y ordinario solo por su divina providencia, así puede tambien mudar los efectos naturales cuando es servido…"Ibid., 263.

[144] "[L]o que mi flaco entendimiento alcanza, me parece que no puede la influencia de ésta, ni de ninguna otra conjunción y concurso de astros, hacer en los hombres más efecto que alterar las complexiones de ellos, aumentando y fortificando la virtud de alguno de los cuatro humores, a cuya causa se inclinen a algún acto particular de bien, o de mal correspondiente al tal humor. Mas sobre esta inclinación es la razón y fuerza del libre albedrío, y puede hacer el hombre cosas contrarias de lo que él mismo desea, si no es que por sus pecados o por los secretos y ocultos juicios de la divina Providencia, le deja Dios de su mano, quitándole la luz del entendimiento, para que siguiendo sus apetititos caiga de un error en otro hasta despeñarse y cuando esto sucede en un gran monarca suelen participar del daño todos sus vasallos y causarse de ello la referida mudanza."Ibid., 344.

[145] "[C]uando los españoles conquistaron esta tierra, fueron los naturales de ella mucho mas bellicosos que lo son al presente."Ibid., 276.

immutable and harmonious they only had conservative effects, and that if bodies received harm, it was because of the corruption of the material not the influence of the heavens.[146] Pestilences, he averred, came from sins not stars. Stars might alter the air, but if harm came from that alteration it was the disposition of the material, not the effect of the heavens. Using the term "pegar," to stick, Barrios described the *peste* (bubonic plague) as a "wild animal," arguing that it "stuck" people, but he thought that it was caused by "sins and lack of alimentation."[147]

He also thought that foul water and earthquakes might cause pestilence and argued that the waters surrounding Mexico City contributed to the prevalence of *tabardete* (typhus) there. Writing just one year before Martínez's *Desagüe,* at a time when the watery location of Mexico was on the minds of its residents, Barrios noted that if it were not for this watery situation, Mexico City would be the "most sumptuous city of all those in Spain." Marveling at the stone houses, the great traffic of coaches, the prosperity of the residents, and the temperateness of the city, he described the ever remarkable fact that one might feel the heat of the sun, but then step into the shade and be quite cool. He attributed the fact that there was no bubonic plague in the city to this temperateness, noting that if a Spanish city had such foul smelling air, there would surely be pestilence. Mexico's waters, he implied, threatened both the health and sensibilities of its residents.

Cisneros, who had a political stake in discrediting Martínez, argued for a strictly providential interpretation for both the mortality and the fall of the Mexica. As we have already seen, Cisneros's affiliation with the Marqués de Guadalcázar probably influenced Cisneros' attack on Martínez, who was widely unpopular at this time. The attack may also have been personal, but some of his criticisms might also have stemmed from the fact that his text was published after the 1616 edict against astrology. Throughout the work, Cisneros demonstrated a desire to save the reputation of astrology and maintain his own dogmatic correctness. In the process he did not mind throwing dirt on Martínez. Thus he claimed that Martinez's theory about the fall of the Mexican empire was

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[146] "Asi haze el cielo con sus ministros dándoles con que conserven, y no con que pueden hazer corrupción y daño, ni procede de el Cielo muerte, ni destrucción sino de la materia, y su disposición, y vicio propio como si dijemos los partos mortíferos." Barrios, *Verdadera Medicina, Cirugía Y Astrología*, 49.

[147] "[P]orque sucede esta enfermedad es *por los pecados, y por falta de alimentos"Ibid.* Book II, 48r.

ridiculous and that "the fall of empires, monarchies, *pestilences*, sicknesses, and famines are always sent by God as the punishment for sins." He argued that although you may read in sacred scripture that signs preceded the fall of kingdoms, these things cannot be known or grasped except by *pure conjecture*.[148] Mocking Martínez he noted that although the final judgment will be foretold by signs of the Sun and Moon,

> "these are not grand conjunctions that are caused by the *natural movement* of the stars, or eclipses of the sun and moon, which happen at certain points caused by the same movement, or by comets which are exhalations of the earth or by meteors which have a *natural* explanation, but are among the heroic works of God, such as the flood and the loss of Spain, and *the conquest of these kingdoms* and many other ancient histories you see, and you cannot explain them….you also cannot find astrological rules to explain the eclipse that happened during the sacred Passion of our Redeemer, or how Joshua detained the sun."[149]

Barrios also took issue with Cárdenas's explanation for the cocolistle, arguing that there was no such thing as a regional contagion. He contended that illnesses could occur at all times and in any region of the world, "although there are many which you see in some regions and not in others." This did not mean, he declared, "that if it hasn't happened, it won't." Bringing up the common observation that New Spain did not contain *landre*, Cisneros argued that this did not mean that it could happen. Likewise he argued that the assumption that cocolistle could not be "given" to the Spaniards was false, as it was known to Hippocrates, and affected Spaniards under a Castilian name.[150]

In sum, these authors found both natural and providential explanations for the mortality of the Indians. Both interpretations naturalized the mortality in some way. Unlike the discourse on "consumption" which called for the reform of institutions such as the repartimieinto, or behavioral discourse, which was used to justify congregation, these arguments called for no remedy. Mortality was an accomplished fact, and whether the

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[148] Cisneros's treaty was written after the 1616 *bula* which started inquisitorial proceedings against astrologers and astrology.

[149] Cisneros, *Sitio, Naturaleza Y Propiedades De La Ciudad De México*, 219.

[150] "[Y] como esta dicho, así como en todos tiempos se pueden hacer todas enfermedades, así en todo el mundo y en cualquiera región o ciudad se pueden hacer aunque haya muchas que se vean en unas regiones y no en otras, y no por eso se inferirá: bien, no se han hecho, luego no se harán, así como dicen comúnmente que nunca ha habido peste en estas provincias, que por eso no la pueda haber, ni menos porque el cococliste dé en los indios, que no pueda dar en los españoles, donde será fuerza dar a esta enfermedad nombre castellano, pues es conocida de Hipócrates y tiene casa y solar." Ibid., 250.

Indians died as punishment, reward, or astral machinations it was all imagined as part of God's plan. It was their place.

Conclusion

The lives and works of Cárdenas, Barrios, Martínez, and Cisneros provide an interesting window into the culture of science developing in the colony. Stressing native products, medicines, and habits, these authors paint a picture of cultural adaptation and what Serge Gruzinski calls *mestizaje*. Just as the Indians had adopted many of the habits of Spanish "policía," so-called "Spanish" society took up local habits, such as tobacco, chocolate, *atole*, and the "eloquence of the kingdom." Their descriptions paint a picture of a Spanish society at once divided by habits and united by a fundamental recognition of a shared "Spanishness" which was in the body independent of habits or natality. On one side were recently arrived peninsular Spaniards, such as Cisneros, who decried local cures, products, and habits. On the other were local residents, creoles and peninsulares who had literally become "naturalized." These *New Spaniards* had not yet begun to call themselves, "Mexicans," but they had adopted Mexico City, despite its dangerous and putrid waters, and began to see themselves as natives. Both sides recognized an underlying "Spanishness" that existed independent of place or habit.

At the turn of the seventeenth century Spaniards imagined a new relationship between place and body. The construction of these authors reflected a general feeling in New Spain (and across Spanish America) that it was possible to be a product of two places. Just as man was a microcosm of the *machina mundi*, the creoles were a microcosm of two worlds. Both Spanish and native their bodies linked the two worlds, creating a new basis for Spanish belonging. The inheritance imagined by these authors explained the alterity they "experienced" and the social position of all creoles, who shared their progenitors' ability to reason and rule.

This experience did not make it back to Spain, where place continued to dominate ideas about generation. Place, after all, explained Spain's privileged role in the world, and Spaniards had no real interest in sharing this place with creoles in far away lands, who claimed "inheritance." As we can see in the Spanish texts examined here, "Ethiopians" constituted the phenotypical "other" for Spaniards, and these people had

long since been described by classic authors, who had more experience with them than did Spaniards.

Conclusion. New Spain: Land of Plenty

By the turn of the seventeenth century Spaniards began to re-imagine their place in New Spain. As native populations continued to decline and criticism of Spanish "consumption" undermined claims about the benefits of the civilizing mission, the Indians became an increasingly precarious basis for Spanish belonging. At the same time the growth of a resident Spanish population (which included both creoles and naturalized *peninsulares*) created a new basis for belonging. No longer dependent on their relationship to the Indians, Spaniards in New Spain started to imagine themselves in relation to the land.

This is reflected in the works of Cárdenas, Martínez, and Cisneros. While previous generations used the Indians as a cipher for New Spain's natural landscape, these authors looked to the bodies of Spaniards to understand the natural effects of the land. The heat and putridity of the land resonated in shorter lives for creoles, and weakened bodies for Spanish residents, while the temperateness of the land manifested in sharp intellects. To distinguish creoles from their fellow natives these authors created choleric Spaniards and phlegmatic Indians, placing these two groups in binary opposition, of hot and cold, dry and wet, feminine and masculine. This is especially evident in the way that Martínez linked Spaniards with Mars ♂ and the Indians with Venus ♀. Creoles, they argued, inherited this "essential" choleric nature, allowing their bodies to resist the cold wet influence of the land, while permitting the tempering sanguineous influence of the Sun. The bodies of creoles encompassed two geographies which were reflected in manners and physiques. Like Spaniards, they where "white and red," had beards and lost their hair (a sign of dryness in the body), but they were also affable, shorter lived, and eloquent. Creoles were unlike the Indians, their fellow natives, and their peninsular kin.

Creating a shared physicality that defined Spanishness, these authors exemplified Tamar Herzog's claim that *naturaleza* (Spanishness) was a product of the Americas. Defining Spanishness as choleric, these authors encarnalized ideas about Spanish fieriness. In the process they created a Spanish identity that did not exist in Spain. In Spain Spanishness was identified with Catholicism in antithesis to Muslim and Jewish converts, and the Dutch and English with whom Spain was at constant war. While Spanish doctors and astrologers imagined diverse complexions and "dispositions" among the Spanish population, which many thought accounted for mortality patterns in epidemics, these authors created a blanket complexion describing the physicality of Spanishness. As we saw with Barrios and Huarte, cholerics were hot, brave, contentious, and prone to women. According to Cisneros they were animated, daring, inclined to the sciences, and robust. Placed against the cold and wet phlegmatic and inactive Indians, choleric Spaniards were active, prone to sin, but also capable of overcoming their physicality. Their vital heat made them natural rulers in a land stunted by torpidity. As we saw with the *visitador* Velasco de Landeras, however, cholerics were also imagined as indelicate, acerbic, and in the case of the *visitador*, "poorly raised." Creoles' sanguinity curbed this hard edge, allowing them to adopt the "political language" of the land.

As Jorge Cañizares-Esguerra has pointed out, the inheritance of their forefather's nature served to defend creoles from the supposed degeneracy of the land and association with the Indians. It also placed them, along with their Spanish kin, at the top of a natural hierarchy, not entirely dissimilar to nineteenth century constructions or race. However, race, does not adequately capture the transmission imagined by these authors and their readers. First, because of its emphasis on skin color and other "accidental" qualities, race does not capture the "essential" inheritance of the creole: his ability to rule his own body and those of others. Second, race as concept negates place, and these authors did not do away with place as the generative factor creating Spanishness, they merely argued that it could be passed down through generation in other places. Likewise, by *placing* creoles, these authors also re-oriented them. Differentiating creoles from peninsular Spaniards based on their place of origin, these authors highlighted their nativeness. Enjoying a sort of duel *naturaleza*, creole bodies linked the two Spains imagined by Balbuena,

encompassing the best of both worlds, while providing a new basis for Spanish belonging.

These ideas did not make it back to Europe, where ideas about the degeneracy of the land had more currency than ideas about creole inheritance. This would force intellectuals in the next generation, such as Don Sigüenza y Góngora, to continue the defense of New Spain's native born. Like Martínez Sigüenza occupied the position of Royal Cosmographer, and published *reportorios*, despite his fears that they might sully his reputation as an astrologer. Unlike Martínez, Sigüenza had a personal stake in what he called "nuestra nación criolla," (our creole nation) and he struggled to defend his fellow compatriots from the international scorn heaped on Spaniards born in the New World.[1] "In some parts of Europe," he lamented, they thought that those born in the New World, Indian and creole alike, were only marginally human, walking on two feet "by divine dispensation" with so little reason that even "English microscopes" could not detect it.[2] As Ralph Bauer has argued, Sigüenza was particularly disturbed by English portrayals of the New World, culled as they were from Spanish sources, and then used to create a black legend.

The process of identification did not end with Cárdenas, Martínez, and Cisneros, but their concurrence on the nature of the creole across two decades suggests the currency of this idea with local audiences, both creole and peninsular. Spanishness implied a dominant physicality that could be passed down along with *pureza de sangre*, Old Christian blood, which still formed the basis for the social hierarchy of New Spain. Over time Spanishness would come to be more and more associated with physical attributes, such as whiteness, along a gradation of castes and colors, eventually portrayed in the famous *casta* paintings of the late eighteenth century. As Janet Moore Lindman and Michele Lise Tarter point out, bodies are inscribed by power relations, status and

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[1] Ralph Bauer, *The Cultural Geography of Colonial American Literatures: Empire, Travel, Modernity* (Cambridge, New York: Cambridge University Press, 2003), 169.

[2] "Piensan en algunas pare de la Europa y con especialidad en las septentrionales,…que no sólo los indios, habitadores originarios de estos países, sino que los que de padres españoles casualmente nacimos en ellos, o andamos en dos pies por divina dispensación o que aun valiéndose de microscopios ingleses apenas se descubre en nosotros lo racional." As cited in Ibid., 168.

differentiation but they cannot be reduced to these things.[3] Bodies are constantly being reproduced, just as they are constantly reproducing.

In New Spain reproduction entailed the mixture of Africans, Indians, and Spaniards and while this alterity did not convince colonials to do away with environmental theories of generation, it did encourage them to modify these ideas, imaging the transmission of essential and accidental qualities that explained Spanish domination. This construction reflects the formation of a "knowledge regime" of heredity in New Spain. This is evident in the way that Spaniards explained the social order of New Spain. For example in 1607 Viceroy Montesclaros complained about the behavior of many Spaniards, persons free of "tainted blood" but who where "more incapable of goodness and honor than those who are that way *by nature*" (i.e. castas).[4] Similarly the viceroy Marqués de Mancera (1664-1673) reported that the drunkenness, laziness and criminality of the poor had caused many problems but that this would have been even worse if their "different shades had not also produced a diversity of inclinations."[5] Recognizing the same sort of transfer witnessed in the texts of Cárdenas, Martínez and Cisneros, the same viceroy also opined that "[t]he mestizos, sons and descendants of the Spaniards, are no less presumptuous than the Negroes and mulattoes…but in a somewhat more elevated manner. Their presumption is better controlled and more subject to reason. They are proud that they have our blood in them and on various occasions have shown that they know how to carry out their responsibilities."[6] Spanishness, like nobility, could be passed down through generation elevating the progeny in tangible ways.

Tropes

The same tropes that shaped the constructions of Cárdenas, Martínez and Cisneros continued to shape thinking about the Indians throughout the next generation, just as missionary efforts and labor requirements continued to shape Spanish motivations. Writing in 1641, Juan de Palafox y Mendoza, for example, took up both the "lazy Indian"

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[3] Janet Moore Lindman and Michele Lise Tarter, eds., *A Centre of Wonders: The Body in Early America* (Cornell University Press, 2001), 2.
[4] Cope, *The Limits of Racial Domination: Plebeian Society in Colonial Mexico City 1660-1720*, 23
[5] Ibid., 25.
[6] Ibid., 26.

and the "potential Indian," imagining Indian bodies as both naturally suited to Christianity and in need of Spanish regulation. He argued that the Indians were innocent of four of the most divisive human vices: greed, ambition, pride, ire, or envy, and contended that those who lived in isolation from Spaniards and others did not need to lock their doors, because among them there were no thieves. The Indians lived, he said, under a simple sainted law, "and as though it was that of nature."[7] Indian virtue was natural, not the result of will. This same nature made the Indians intensely patient, according to Palafox, who noted that they would endure work, abuse, and hunger without complaining or getting angry.[8] Like many before him, the Bishop and future viceroy, conceded that the Indians suffered from the sensuous vices, but he thought that even in these they were "temperate," with the exception of drinking too much, and he argued that their natural laziness could be easily cured by admonishments or putting them to some task or other.[9] Indian bodies were easily ruled by those with the will to do it.

Thomas Gage, an English Franciscan who traveled throughout New Spain elucidated another trope: the eloquence of the land. Gage, who wrote for the benefit of an English audience, agreed with the general assessment of the Indians virtue, noting that Spaniards might go about with "bags of gold" in the wilderness without worrying, because the Indians did not steal. Timorous and willing serve, Gage's Indians spoke with eloquence and abundant circumlocutions, parables, and compliments. The friar noted that he had often sat "still for the space of an hour, only hearing some old women make their speeches unto me, with so many elegancies in their tongue (which in English would be nonsense, or barbarous expressions) as would make me wonder."[10]

Although depopulation slowed down, ideas about Spanish excess and Indian mortality continued, as Spaniards struggled with the conservation of New Spain's most valuable resource. Following the fears of Mendieta, that Indian depopulation was Gods punishment for the Spaniards Rodrigo Pacheco y Osario, the Marques of Cerralbo (1624-1635) argued that he had done what it was possible for a human to do against God's

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[7] Juan de Palafox y Mendoza, *Manual De Estados Y Professiones & De La Naturaleza Del Indio*, ed. Biblioteca Mexicana de Escritores Politicos (México: Miguel Angel Porrúa, 1986), 74.
[8] Ibid., 78.
[9] Ibid., 72, 63.
[10] Gage, *Thomas Gage's Travels in the New World*, 234.

disposition. He had enforced strict regulations for *obrajes*, stopped the "vexations" of local officials, and stopped the *repartimiento*, except for the draft that supplied labor to the mines, which he did not "dare" to do, as it would "stop the production of silver."[11] Nevertheless the Indians continued to diminish. Lope Diez de Armendariz, the Marques de Cadereyta (1635- 1640) wrote back to the king that during his reign he had moderated the use of Indians' "sweat and blood" such that it had pleased God to free them from the "contagious illnesses that afflict them."[12] Likewise during his interim term as viceroy Juan de Palafox y Mendoza (1642) wrote to the king that viceroys needed to correct the *alcaldes mayores*, who injured the Indians and stymied the colonial economy by forcing the Indians to work day an night for little gain. Palafox noted that this abuse forced the Indians into poverty, or flight, and being "men of the weakest complexion or nature" they were consumed and died. This not only hurt the Indians, but the economy, because the Indians were then unable to produce foodstuff, and the only people who benefited from this were those who had caused the damage in the first place, as they were then able to hoard their crops driving up prices.[13] The abundance of the land depended on Indian production, and Spanish abuse threatened this bounty.

While Vasco de Quiroga had imagined the bounty of New Spain in relation to the Indians, who would be the basis for a future golden age, this generation of Spaniards began to imagine the bounty as their own. Sor Juan de la Cruz, one of the most famous female intellectuals of the early modern period, imagined Spain pillaging her birthright. Playing up the trope that gold and other precious things are generated in tropic places,

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[11] Hanke and Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria: México Ii*. Vol, III, 274.

[12] "Entendí a la par en la conservación y aumento de los naturales, miserables indios, que tanto necesitan del amparo de los virreyes en nombre de S.M. Hice observar indispensablemente las órdenes y cédulas tan quebrantadas y sin más repartimientos que los permitidos y esos, moderados y con buen tratamiento y mucha atención, sin consentir demasías de poderosos que usaban mal del sudor y sangre de estas gentes. Han sido, en mi tiempo, aliviados y servido Nuestro Señor de favorecer el celo con librarlos de enfermedades contagiosas que los afligían." Lewis Hanke and Celso Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria, México*, vol. IV, Biblioteca De Autores Españoles (Madrid: Atlas, 1977), 12.

[13] "A los alcaldes mayores conviene corregirlos, porque con sus tratos y granjerias a un mismo paso acaban los indios y destruyen la hacienda del rey pues hacen que estos miserables busquen géneros y trabajen dia y noche unas veces sin paga alguna, otras muy desigual, otras siéndoles comprobar lo que no han menester, de donde resulta empobrecerse o huirse y como hombres de debilísima complexión o naturaleza, consumirse o morirse." Ibid., 60.

where the sun's influence is strong, Sor Juana starts her sonnet dedicated to the Virgin of Guadalupe,

> Señora, I was born
> in America, land of plenty
> Gold is my compatriot,
> and the precious metals my comrades.

Taking up Quiroga's vision of the Saturnalia, she argued that New Spain was like the land of milk and honey, where sustenance was "almost freely given."

> Here's a land where sustenance
> is almost freely given,
> to no other land on earth
> is Mother Earth so generous.

This abundance, she continued, freed man (Spaniards) of the same "common curse" referenced by Martínez.

> From the common curse of man
> its sons appear to be born free,
> For here their daily bread
> costs but little sweat of labor.

Finally, without referencing the Indians, who produced this wealth, Sor Juana lamented that,

> Europe knows this best of all
> for these many years, insatiable,
> She has bled the abundant veins
> of America's rich mines."[14]

Jacques Lafaye notes the connection between the Virgin's Immaculate Conception and the weight lifted from New Spain's residents, arguing that it implied the "evocation of a Mexican people "Immaculate"- like the Virgin Mary herself!"[15] But as we saw with Quiroga who associated the Saturnalia with a pre-Columbian past, what is more significant in Sor Juana's construction is the "naturalization" of Spanish residents, who are undistinguished from America's original "sons."

Echoing Balbuena, Barrios, Cárdenas, Martínez and Cisneros, Sigüenza y Góngora eulogized Mexico City in his *Paraiso Occidental*. He acclaimed her "delightful situation," broad streets, illustrious past, and finally "the qualities which Heaven has

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[14] As translated in Lafaye, *Quetzalcóatl and Guadalupe: The Formation of Mexican National Consciousness 1531-1813*, 71-72.
[15] Ibid., 71.

dispensed to its illustrious children."[16] But as Jacques LaFaye has noted, in another passage describing the corn riots of 1696, Sigüenza felt the hostility of Indians, who claimed proprietary rights over the land, asking "is this not our land? Then what are the Spaniards doing here?" Likewise in his relation of a rebellion in New Mexico in 1680 Sigüenza poignantly described the Hispanicization of the land and native responses. According to Sigüenza the secretive Indians had been planning the attack for fourteen years, guarding their secret hatred for the Spanish. When they attacked they not only killed five hundred "Spaniards," including 21 priests, but destroyed everything Spanish from churches to chickens, pigs, and Spanish fruit and trees, and wheat.[17] Spanishness existed in plants and animals as well as human bodies, and creoles increasingly found themselves dispossessed by both groups, even as they themselves embraced the heritage of each.

In this generation the tension between creoles and *peninsulares* grew. Gage described this tension and the divisions between the two factions as daily occurrences, which invaded religious life.[18] Many of these tensions were minor. In one case creole friars buried a Spanish friar, the Master of Divinity, in the garden, alleging that he had died excommunicated and did not deserve burial in the church or cloister. But these escalated, as in the case of the Marques de Gelves, who was run out of the kingdom by an angry mob, unhappy about his policies.[19] Although the crises was smoothed over by the incoming viceroy and Gelves was symbolically reinstated, this clash and reflected the growing hostility between local residents and royal officials. Gage felt the antipathy of the creoles sorely, noting that he would have liked to have lived in Oaxaca except that there were many creole friars there. Writing to stir up English hopes for an English incursion in New Spain, Gage declared that the creoles hated the Spanish government, which oppressed them. He surmised that these creoles were and "will be always

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[16] Ibid., 67.
[17] "Pero no es digno de omitir el que o quedó piedra sobre piedra de los conventos y templos, y que hast en las gallinas, en los carneros, en los árboles frutales de Castilla, y aún en el trigo en odio de la nación española, se empleó su enojo." Carlos de Sigüenza y Góngora, *Obras Históricas* (México: Editorial Porrúa, 1944), 240.
[18] Gage, *Thomas Gage's Travels in the New World*, 105, 113, 125, 127, 134, 160, 173, 215.
[19] Hanke and Rodriguez, eds., *Los Virreyes Españoles En America Durante El Gobierno De La Casa De Austria: México Ii*, Vol. III, 111.

watching any opportunity to free themselves form the Spanish yolk."[20] Yet Gage's revolution was slow to materialize. Creoles, such as Siguenza y Gongora, might have felt the burden of the Spanish mercantilist system. They may have resented the privileges given to peninsulars, and they may, like Sor Juana, have lamented the rape of their *patria's* natural resources, but they also depended on Spanish force to subdue uprisings like the one in New Mexico, and they imagined a shared Spanishness that linked the two peoples.

[20] Gage, *Thomas Gage's Travels in the New World*, 114, 86.

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